

Effectiveness of Drug Addiction Treatment and Rehabilitation Centers: An Empirical Study in Tangail, Gazipur and Dhaka District

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Abstract: Drug addiction is a major socio-economic problem in Bangladesh. The alarming situation of drug addiction and for the cure and reintegration of the drug addicts into the society, various drug treatment centers are working around the country. It is the demand of time to justify the activities of drug treatment centers. The objective of this study is to evaluate the effectiveness of drug treatment centers by measuring treatment completion rate, recidivism rate and the rate of rehabilitation of drug abusers. This study identified 250 drug recidivists from six drug treatment centers in three districts. From rehabilitation percentage among treatment method, this study showed that Group Counseling is 22 percent effective, Cognitive Behavioral Therapy is 23 percent, Family Behavioral Therapy is 31 percent, Motivational Enhancement Therapy is 21 percent and 12-Step Program is 25 percent effective in Bangladesh. The study acknowledged that the effectiveness of the drug treatment centers depends largely on the environment, management, treatment methods and economic condition of drug addiction treatment and rehabilitation centers.

Keywords: Drug addiction, recidivism, rehabilitation, treatment, therapy.

Introduction

Drug addiction is a dreadful threat for society. It can affect the biological, social, financial, psychological and security as part of an

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individual's life, family and the community as well. Its abuse has become prevalent everywhere in the houses, streets, workplace, parks, slums, and markets and even in educational institutions both in rural and urban areas. As a result, it has turned into a major social obstacle and inextricably adjoined to the whole socio-economic affair of this time. At first drug was used for producing medicine but now it's used in the nature of abusing (Donnelly & Jennifer, 2011).

Drug addiction causes mental disorder, memory loss, carelessness, cancer, lungs problem, abnormal respiratory activities, nervousness etc. It not only affects the addict but also has a far reaching effect which encompasses family, friends, employers, healthcare professionals and society as a whole. It is not a new problem in Bangladesh, but in recent years drug addiction has significantly affected the country. According to Islam (2012), in Bangladesh it is a growing national concern because there are millions of drug-addicted people in Bangladesh and most of them are young, between the age of 18 and 30 years.

The term 'recidivism' originates from the Latin *recidere*, which means to fall back. Simply stated, recidivism is the reoccurrence of criminal behavior. It is often used interchangeably with others such as repeat offending or reoffending (Maltz, 1984). Drug recidivism refers to 'the return of an addict to drug addiction treatment center'. Recidivism is the relapse into criminal activity and is generally measured by a former addict's return to drug addiction treatment center for re-addiction. The rate of recidivism refers to the proportion of a specific group of addicts who sustain a defined negative outcome within a given period of time.

With the aim of establishing effective treatment center "The Single Convention on Narcotic Drugs of 1961, and the 'United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988', includes provisions requesting the State Members of the United Nations to give special attention to, and 'take all practicable measures for the prevention of abuse of psychotropic substances and for the early identification, treatment, aftercare, rehabilitation and social reintegration of individuals'(Article 20.1, UN Convention on Psychotropic Substances, 1971) with drug abuse problems. Keeping pace with the United Nation, various treatment centers were established in the developed countries (USA, Sweden etc). But Bangladesh is lagging behind in this case; first Narcotics Control Act was passed in 1990. After all it is not fully activated. According to Department of Narcotics Control, there are four government drug treatment centers

in Bangladesh whose total beds are 265. Among them Central Drug Addiction Treatment and Rehabilitation Center (Dhaka) has 250 beds and Regional Drug Treatment Centers (Khulna, Rajshahi, and Chittagong) each has 5 beds (www.dnc.gov.bd, 2016). Nowadays various private drug treatment centers are emerging in our country such as Ahasania Mission Drug Addiction Treatment and Rehabilitation Center, Bijoy Drug Addiction Treatment and Rehabilitation Center, Decide Drug Treatment and Rehabilitation Center etc. For this study six treatment centers have been selected purposively. Data were also collected from the drug addicts who were taking services from these treatment centers by survey method. Director's interview and case study of some recidivists have also been taken for this study.

The main objective of this study is to measure the effectiveness of drug treatment center. This study will help to understand the present condition of drug abusers and the demographic characteristics of the addicts. It also explores the effectiveness of the programs of and the causes of failure of the programs, strengths and weakness of programs, find out the way to make effective rehabilitative program and finally help the government in policy making and other researchers to conduct further study.

In this study, effectiveness of various treatment centers are evaluated by four ways such as recidivism rate, percentage of rehabilitated person, the overall percentage of rehabilitated person and the treatment completion rate. From comparative discussion among various treatment centers, it is also possible to predict the effective treatment method.

Methodology

In order to evaluate the effectiveness of the programs the study has used a mixed approach where both qualitative and quantitative type of data has been used. Primary and secondary data have been used to support the study findings. It is done over drug recidivists of six treatment and rehabilitation centers. For this purpose six drug treatments and rehabilitation centers in Tangail, Gazipur and Dhaka district have been studied. The following treatment centers have been selected purposively:

1. Ahasania Mission Drug Treatment and Rehabilitation Center, Gazipur
2. Bijoy Drug Treatment and Rehabilitation Center, Uttara, Dhaka

3. Bijoy, Uttara, Dhaka
4. Decide Drug Treatment and Rehabilitation Center, Tangail
5. Shimanta Drug Treatment and Rehabilitation Center, Tangail
6. Alokito Agami, Tangail.

Admitted persons in these treatment centers are categorized into three different groups such as patients, rehabilitated persons and recidivists. Data collected from the recidivists who are selected as a probability sampling and the respondents were selected by systematic random sampling method. The population of this study was 250. Sampling frame was formed by including all recidivists of six treatment center. In order to represent the population in the study findings 20% of the total population has been considered as sample of this study, therefore fifty respondents have been selected through systematic random sampling for the study where sample interval was 5.

To collect primary data from the respondents, personal interview method has been used. For this method, a questionnaire has been prepared which contains both close-ended and open-ended questions. The questionnaire was pre-tested while in the pilot surveys in order to develop an effective survey tool for conducting the final survey. Six key informant interviews have been taken from the professionals who are directly or indirectly involved with the treatment centers. The Statistical Package for Social Sciences program has been used for processing and analyzing the collected data. Graphical presentations like pie chart and bar diagrams are used to visualize the results.

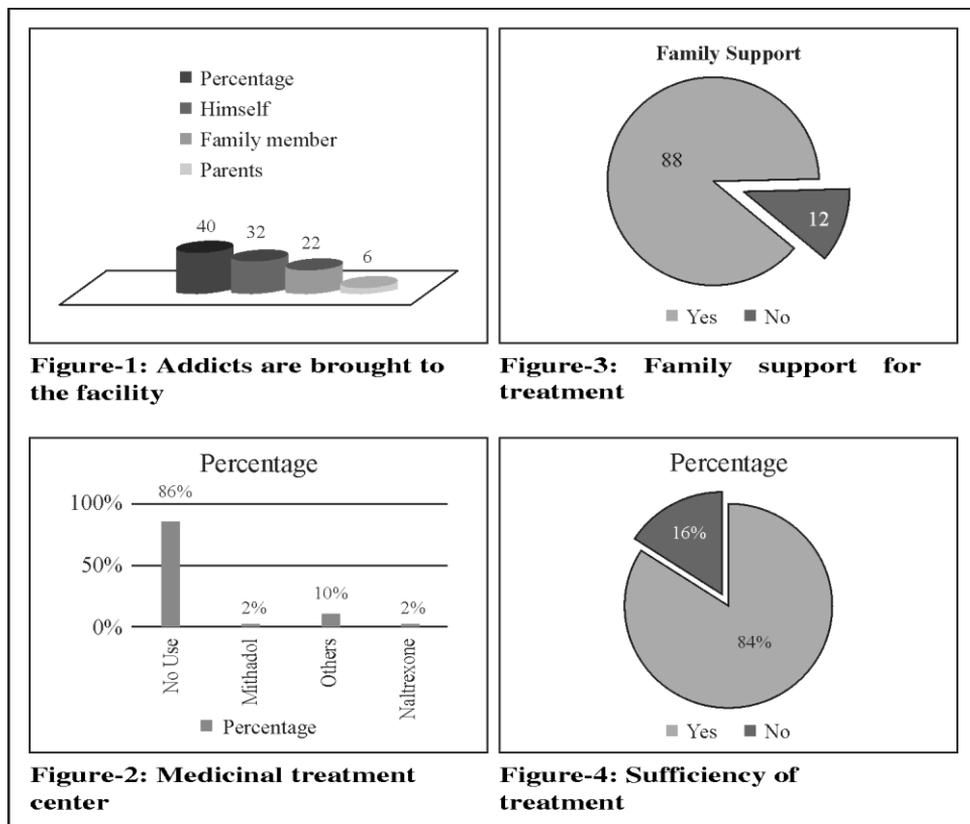
Result and Discussion

This study showed that maximum 40 percent recidivists are brought to the rehabilitation center by themselves and 6 percent recidivist are brought by relatives (Figure-1). It is also found that maximum of the respondents stayed more than 15 months at the treatment center and at least 8 percent respondents stayed up to 12-15 months (Table-1).

Psychological treatment largely depends on the motivational therapy and like system which sometimes may require simple but regular basis medication. This study showed that maximum of the recidivists are treated by motivational therapy and at least 2 percent treated by psychological therapy with some medicine at the treatment center

(Table-2). About 34 percent respondents acknowledged that they did not get any therapy from the treatment center and 2 percent took musical therapy from the treatment center (Table-3).

In terms of medicinal treatment the study showed that most of the respondents did not get any medicinal therapy from the treatment center and only 2 percent take medicine such as methanol or naltrexone (Figure-2) in order to overcome their dependency. About 88 percent drug addicts confessed that they get the support from their family to go to the treatment center. On the other hand, only 12 percent confessed that they did not get the support of their family (Figure-3). The study shows that, maximum of the respondents admitted that they are satisfied with the available treatment program and only 16 percent respondents admitted that they are not satisfied (Figure-4).



Textbox-01: Figure (1, 2, 3, 4)

Table-1: Duration of staying in the rehabilitation center

Duration	Frequency	Percent	Methods	Frequency	Percent
4-7 months	13	26	Therapeutic, physical test	5	10
8-11 months	16	32	Therapeutic and moral	18	36
11+ months	21	42	Therapeutic, moral and medicine	3	6
Total	50	100	Moral/ethics	24	48
			Total	50	100

Table-2: Types of treatment method

Table-3: Therapeutic treatment method

Therapy	Frequency	Percent	Therapy	Frequency	Percent
No therapy	17	34	Cognitive behavioral and music	7	14
Detox-Cog	7	14	Others	7	14
Cognitive	12	24	Total	50	100

This study reveals that 20 percent respondent who are from 22-27 years have taken drugs for a minimum of 4-5 years and 16 percent respondents at the age group of 28-33 years have taken drugs for 6-7 years; 12 percent respondent of 16-21 years have taken drugs for 2-3 years (Table-4).

Table-4: Association between age of the respondents and duration of drug addiction

			Duration of drug addiction				Un-known	Total
			0-1 years	2-3 years	4-5 years	6-7 years		
Age of the respondent	16-21	Count	1	6	2	1	1	11
		% of Total	2.0%	12.0%	4.0%	2.0%	2.0%	22.0%
	22-27	Count	1	2	10	4	2	19
		% of Total	2.0%	4.0%	20.0%	8.0%	4.0%	38.0%

			Duration of drug addiction				Un-known	Total
			0-1 years	2-3 years	4-5 years	6-7 years		
	28-33	Count	0	0	1	8	2	11
		% of Total	0.0%	0.0%	2.0%	16.0%	4.0%	22.0%
	33+	Count	0	1	0	2	6	9
		% of Total	0.0%	2.0%	0.0%	4.0%	12.0%	18.0%
Total		Count	2	9	13	15	11	50
		% of Total	4.0%	18.0%	26.0%	30%	22%	100.0%

In this study it is found that, about 20 percent recidivists aged (22-27) years old stayed at the treatment center for (8-11) months, 14 percent recidivists aged (28-33+) stayed at the treatment center for 15+ months, 8 percent recidivists aged (16-21) stay at the treatment center for (4-7) months and 4 percent recidivists aged (16-21) stay in the treatment center for (12-15) months (Table-5)

Table-5: Association between age of the respondents and time of staying into treatment center

			Duration of staying into treatment center				Total	
			4-7 months	8-11 months	12-15 months	15+ months		
Age of the respondent	16-21	Count	4	3	2	2	11	
		% of Total	8.00%	6.00%	4.00%	4.00%	22.00%	
	22-27	Count	4	10	0	5	19	
		% of Total	8.00%	20.00%	0.00%	10.00%	38.00%	
	28-33	Count	0	3	1	7	11	
		% of Total	0.00%	6.00%	2.00%	14.00%	22.00%	
	33+	Count	1	0	1	7	9	
		% of Total	2.00%	0.00%	2.00%	14.00%	18.00%	
	Total		Count	9	16	4	21	50
			% of Total	18.00%	32.00%	8.00%	42.00%	100%

Measuring Effectiveness of Treatment Methods in Various Treatment Centers

Effectiveness of treatment centers is evaluated from four dimensions such as recidivism rate, percentage of rehabilitated person, overall rehabilitation percentage of patients in treatment method and treatment completion rate on the basis of data of 2013. Recidivism rate refers to the proportion of total admitted drug addicts and the number of recidivist within certain period. Recidivism rate helps to understand the effectiveness of drug addiction treatment center. Besides the percentage of rehabilitated addicts are marked as the effectiveness of treatment center. The percentages of rehabilitated addicts on the base of treatment method are marked as the overall effectiveness of treatment method. In this study, it is found that; highest treatment completion rate is found in the Bijoy Drug Addiction Treatment and Rehabilitation Center which is 1.9, whereas the lowest treatment completion rate is found in the Shimanta Drug Treatment and Rehabilitation Center which is 0.286. In this study lowest recidivism rate is 0.27 in the Bijoy and highest recidivism rate is 0.571 in the Shimanta Drug Treatment and Rehabilitation Center. In case of rehabilitation rate, percentage of rehabilitated patients is highest (25 percent) in Alokito Agami and lowest (10 percent) in Shimanta Drug Addiction Treatment and Rehabilitation Center.

Ahasania Mission Drug Addiction Treatment and Rehabilitation Center and Alokito Agami have the most successful rate of rehabilitation which is 22 percent whereas Shimanta Drug Addiction Treatment and Rehabilitation Center has 12 percent rehabilitation rate which is the lowest. Group counseling is practiced as treatment method at the highest rate (22 percent) in Ahasania Mission Drug Addiction Treatment and Rehabilitation Center and the lowest (11 percent) in Shimanta Drug Addiction Treatment and Rehabilitation Center. Cognitive Behavioral Therapy is practiced at the highest rate (23 percent) in Alokito Agami and the lowest 11 percent in Shimanta Drug Addiction Treatment and Rehabilitation Center. Family Behavioral therapy is practiced at the highest rate (31 percent) in Ahasania Mission Drug Addiction Treatment and Rehabilitation Center and at a lowest rate (9 percent) in Shimanta Drug Addiction Treatment and Rehabilitation Center. Motivational Enhancement Therapy is the highest 21 percent in Ahasania Mission Drug Addiction Treatment and Rehabilitation Center and the lowest 10 percent effective in Decide Drug Addiction Treatment and Rehabilitation Center. The 12-step program is the highest 25 percent in Alokito Agami and the lowest 14 percent in Shimanta Drug Addiction Treatment and Rehabilitation Center (Table-6).

Table-6: Recidivism rate and the effectiveness of treatment method in various treatment centers

Ahasania Mission Drug Addiction Treatment and Rehabilitation Center, Gazipur							
Subject	NA/PS	G.C	CBT	FBT	MET	12Step	Total
Patient admitted	300	280	300	200	290	300	1370
(%) of rehabilitated patients	20%	22%	19%	31%	21%	20%	22%
Treatment completion rate	0.5						
Recidivism rate	0.297						
Bijoy Drug Addiction Treatment and Rehabilitation Center, Uttara, Dhaka							
Patient admitted	200	200	200	150	200	200	950
(%) of rehabilitated patients	16%	16%	13%	15%	11%	16%	14%
Treatment completion rate	1.9						
Recidivism rate	0.32						
Bijoy, Uttara, Dhaka							
Patient admitted	100	100	100	100	80	100	480
(%) of rehabilitated patients	22%	22%	20%	15%	16%	22%	19%
Treatment completion rate	0.51						
Recidivism rate	0.27						
Decide Drug Addiction Treatment and Rehabilitation Center, Tangail							
Patient admitted	40	40	40	35	40	40	195
(%) of rehabilitated patients	20%	18%	13%	15%	10%	20%	15%
Treatment completion rate	0.475						
Recidivism rate	0.325						
Shimanta Drug Addiction Treatment and Rehabilitation Center, Tangail							

Patient admitted	70	70	70	70	50	70	330
(%) of rehabilitated patients	14%	11%	11%	9%	14%	14%	12%
Treatment completion rate	0.286						
Recidivism rate	0.571						

Alokito Agami, Tangail							
Patient admitted	40	40	35	30	35	40	180
(%) of rehabilitated patients	25%	18%	23%	17%	17%	25%	22%
Treatment completion rate	0.33						
Recidivism rate	0.425						
Overall discussion of the above table							
Total patients of six treatment and rehabilitation center in 2013	750						
Total treatment completion number	358						
Total treatment completion rate	0.477						
Total recidivist	250						
Total recidivism rate	0.333						
Total rehabilitated patients	142						
Total rehabilitation percentage	19.6%						

Discussions

Drug addiction is a worldwide problem. Every country in the world has been facing this problem where the youth are becoming affected mostly. To eradicate this problem has become one of the major challenges of human civilization. Without proper treatment, it is quite difficult to make them addiction free because of the nature of addiction and the cause of many adverse ways in which continuous

drug taking may affect an individual's life. A lot of studies have been conducted by various disciplines or institutions around the world. Treatment of drug addiction is also studied in the developed countries.

The Government of Australia has developed a national drug strategic framework which includes alternative pharmacotherapy for the treatment; improving the effectiveness and quality of services; ensuring community acceptance of services; increasing the involvement of mainstream service providers; building stronger links between drug treatment services and mental health services (Washington, D.C., National Academy Press, 1990). All strategies are effective in this country without pharmacotherapy for the treatment. Pharmacotherapy is not effective in the context of Bangladesh. In case of effectiveness, Group Counseling is 22 percent, Cognitive Behavioral Therapy is 23 percent, Family Behavioral Therapy is 31 percent, Motivational enhancement therapy is 21 percent and 12-step program is 25 percent effective in Bangladesh. Among these programs, Family Behavioral Therapy is more applicable and after it 12-step program is more applicable in the treatment center of our country.

Islam et al. (2012) showed in his study that among 253 drug abusers, 31 percent is addicted to cannabis, 26 percent to alcohol, 24 percent to phensedyl, 10 percent to heroin and 9 percent to diazepam, antihistamine, methamphetamine etc. But in this study this image has changed like 26 percent take a combination of heroin and marijuana, Phensedyl and Yaba; 24 percent take Marijuana and Yaba, 20 percent take Heroin, Phensedyl and Yaba, 12 percent take Heroin and Yaba, only 6 percent take Hashish.

National study of Spain showed that the majority of people received care in outpatient treatment services, with methadone prescription; academic and professional training; integration into the labor force (work in handicraft workshops, specific employment programs, promotion of self-help cooperatives etc.), as well as residential support such as half-way houses or foster families etc. (Landry, 1995). But in this study it is shown that outpatient treatment services is not followed by the treatment center. Mainly Inpatient treatment (12-step program, cognitive behavioral therapy etc.) services are provided by the treatment center in Bangladesh. In case of training, 92 percent respondents did not take any technical training and only 4 percent agreed that they got various technical training. On the other side, only 4 percent have no comment about training. The treatment centers of our country do not have the actual halfway house but if

any addict wants to stay in the concerning center, he/she can stay in the respective center by paying additional money.

Afghan refugee camp in Pakistan showed in a study that about 300 drug abusers were provided with pre-treatment motivational counseling, and 128 males and 102 females were provided with home detoxification. In addition, 150 recovering addicts were provided with work experience, job training or start-up funding for income-generating activities (Bethesda, Maryland, National Institutes of Health, 1999). In this study it is shown that about 250 male drug recidivists are admitted in various treatment centers. At first all of them are given medical check-up. But separate detoxification units are not opened in these treatment centers. When medical treatment is necessary, they hire doctor to give the proper treatment.

According to the TEDS report: 18 percent Marijuana users who got admitted into TEDS were only 12 years of age, whereas the average age of primary marijuana users was 24 years and forty percent of marijuana addicts were under age of 20. Seventy four percent of all admitted drug abusers were 12 to 14 years and seventy six percent of admitted were aged 15 to 17 years (Rockville, 2013). In the above study only Marijuana has researched by the scholars. But in this study it is shown that about 26 percent take heroin and marijuana; 2 percent take Heroin, Marijuana, Phensedyl and Yaba; 24 percent take Marijuana and Yaba.

According to Brendan Saloner and Benjamin Cook “Across racial and ethnic groups, treatment completion rates were highest for people receiving treatment that primarily targeted alcohol abuse, followed by treatment for methamphetamines, and were lowest for treatment for heroin. Asian Americans were more likely than whites to complete treatment for all substances (Brendan et al., 2013). On the other hand in this study, it is found that highest treatment completion rate is 1.9 in city area as well as lowest treatment completion rate is 0.286 in town.

In a study of US, it was found that of the 2.3 million persons aged 12 or older who received specialty substance used treatment in 2011, 898,000 received treatment for alcohol use only, 780,000 received treatment for illicit drug use only, and 574,000 received treatment for both alcohol and illicit drug use (Rockville, 2012). In this study, it is found that 16 percent addicts aged (22-27) years who received heroin and marijuana; 10 percent addicts aged (28-33) years who consume Heroin, Phensedyl and Yaba and 8 percent addicts aged

(16-27) years who received Heroin, Marijuana, and Yaba. Finally it is said that this applied study play a vital role for controlling recidivism rate. This rate is increased at the age of (22-27) years. Young generation of Bangladesh are mostly affected by the drug addiction. Most of the addicts are Muslims. They live in town. They are not well educated. Generally, they are from middle class family. Maximum recidivists are unmarried. They have been taking drug for more than five years. Among drugs, marijuana is cheapest and heroin is comparatively most costly. Most of the addicts take marijuana, heroin, Yaba etc. This study revealed that most of the respondents take drugs for their mental satisfaction. Most of them are addicted by peer groups or from curiosity and gradually this fun turns into addiction.

Conclusion

Drug addiction does not just affect the addicts; it also affects family, friends, employers, healthcare professionals and society as a whole. It is not a recent problem in Bangladesh but in recent year drug addiction has significantly increased in this country. Drug treatment is intended to help addicted individuals stop compulsive drug seeking and use. So the effectiveness of treatment center plays a vital role for reducing drug related problems and increasing treatment completion rate. In this study the effectiveness is evaluated by recidivism rate, percentage of rehabilitated person, the overall percentage of rehabilitated person from treatment method and the treatment completion rate. Finding of this study support that(1) treatment completion rate is highest in the city area in comparison to town (2) recidivism rate is the lowest in the city area rather than town (3) rehabilitation percentage is highest in healthy environment and lowest in poor environment.

Treatment centers of Bangladesh follow group counseling, Cognitive Behavioral Therapy, 12-Step Program etc. From rehabilitation percentage among treatment method, this study showed that Group Counseling is 22 percent effective, Cognitive Behavioral Therapy is 23 percent, Family Behavioral Therapy is 31 percent, Motivational Enhancement Therapy is 21 percent and 12-Step Program is 25 percent effective in our country. For stopping drug abuse, the treatment center should set a goal to enable the addict for returning to the productive functioning in the family, workplace, and community. But in this study, it is showed that 92 percent respondents did not get any technical or other vocational training and only 4 percent agreed that they got some technical training. On the other side, only 4 percent didn't comment about training. Above all there is no opportunity of getting technical training from this

treatment centers. In treatment center, addicts and directors both suggested that the treatment programmer should be well trained, aftercare program should be developed, healthy environment should be ensured, improve group counseling facility should be provided, etc. We are very much hopeful that effective treatment system will be introduced soon in Bangladesh for reducing drug addiction problem.

References

Bethesda, M. (1999) *Drug Abuse and Addiction Research*, the Sixth Triennial Report to Congress from the Secretary of Health and Human Services, pp.154-220.

Budney-Alan, J., Roffman, R., Stephens, Robert, S. & Walker, D. (2007) 'Marijuana dependence and its treatment', *Addiction Science & Clinical Practice*, p. 5.

Buckley, J. (2009 March 12) *Comptroller and Auditor General Special Report*, Department of Community, Rural and Gaeltacht Affairs, Drug Addiction Treatment and Rehabilitation, Demand Reduction, A Glossary of Terms, United Nations publications, p. 73.

Carroll, K. M., Easton, C. J., Nich, C., Hunkele, K. A., Neavins, T. M., Sinha, R., Ford H, L., Vitolo, S.A., Doebrick, C. A. & Rounsaville, B. J. (2006) 'The use of contingency management and motivational/skills-building therapy to treat young adults with marijuana dependence', *Journal of Consulting and Clinical Psychology*, vol. 74, no. 5, pp. 955–966.

Nachmias, C. Frankfort & Nachmias, D. (1996) *Research Methods in the Social Sciences*, 5th edn, St. Martin's Press Inc, p. 38.

Department of Narcotics Control, Bangladesh [Retrieved from: <http://www.dnc.gov.bd/aboutdnc.html>]

Donnelly, Jennifer. R. (March 2011) 'The need for ibogaine in drug and alcohol addiction treatment', *The Journal of Legal Medicine*, vol. 32, issue 1, pp. 96-97.

Frances, J. Kay-Lambkin, Amanda, L. Baker, Brian, K. & Terry, J. Lewin. (2011) 'Clinician-assisted computerized versus therapist-delivered treatment for depressive and addictive disorders: a randomized controlled trial', *Med Journal of Australia*, vol. 195, no. 3, p. 44.

Gerard, D. & Kerensky, C. (1955) 'Adolescent opiate addiction: a study of control and addict subjects', *Psychiatric Quarterly*, vol. 29, pp. 457-486.

Hassan, K. M. (2005) 'Current trends of illicit drug use and the country response in Bangladesh', [Retrieved from: <http://kmhb.files.wordpress.com/2012/05/trend-of-illicit-drug-use.pdf>.]

Hubbard, R. L., Craddock, S. G., Flynn, P. M., Anderson, J. & Etheridge, R. M. (1998) 'Overview of 1-year follow-up outcomes in the drug abuse treatment outcome study (DATOS)', *Psychology of Addictive Behaviors*, vol. 11, no. 4, pp. 291-298.

Islam, R. N., Tabassum, N. E., Shafiuzzaman, A. K. M., Umar, B. U. & Khanam, M. (2012) 'Methamphetamine (YABA) abuse: a case study in young male', *Faridpur Medical College Journal*, vol. 7, no. 2, pp. 102-104.

Khanam, S. (2008) Knowledge of Drug Addiction of first year MBBS Students of selected Medical College in Dhaka. [Retrieved from: <http://www.scribd.com/doc/6771337>]

Khatun, Mst. T. & Anwar, Md. S. (September - October, 2013) 'Public concern towards drug addiction', *Bangladesh Research Publication Journal*, vol. 9, no. 1, pp. 22-28. [Retrieve from: <http://www.bdresearchpublications.com/admin/journal/upload/1309104/1309104.pdf>.]

Landry, M. (1995) *Overview of Addiction Treatment Effectiveness*, pp. 22-123.

Lewis, B.F., McCusker, J., Hindin, R., Frost, R. & Garfield, F. (1993) 'Four residential drug treatment programs: Project IMPACT' in Inciardi, J.A., Tims F.M., & Fletcher B.W. (eds.), *Innovative Approaches in the Treatment of Drug Abuse*, Greenwood Press, Westport, pp. 45-60.

Lisboa (2009) 'Poly-drug use; pattern and responses' European Monitoring Centre for Drugs and Drug Addiction, Portugal, p. 26.

Matza, David, Nye, John & Sons (1964) *Delinquency and Drift*, p. 199.

Maxfield, Micheal G. & Babbie, E. (1995) *Research Methods for Criminal Justice and Criminology*, Wadsworth Publishing Company, USA.

Micheal, D. Maltz (1984) *Recidivism*, Academic Press. [Retrieve from: www.uic.edu/depts/lib/for/pdf].

Nabi, Md. N. (2009, 3 July) 'Drug addiction in Bangladesh', *Daily Star*, [Retrieve from: <http://www.bdresearchpublications.com/admin/journal/upload/1309104/1309104.pdf>.]

Mojtabai R. & Zivin, G. Joshua (February 2003) *Health Services Research*, vol. 38, issue 1, p. I, pp. 233-259.

National Institute of Drug Abuse (2012) *Principles of Drug Addiction Treatment, A Research-Based Guide (Third Edition)*, NIDA Drug Publications.

Official Records (25 November-20 December 1988) *United Nations conference for the adoption of a convention against illicit traffic in narcotic drugs and psychotropic substances*, vol. I, United Nations Publications, Vienna.

Payne, J. (2005) *Final report of the North Queensland Drug Court evaluation, technical and background paper*, no. 17.

Robert, D. Margolis, Joan, E. Zweben (2001) *Treating Patients with Alcohol and Other Drug Problems: An Integrated Approach*, pp. 42-87.

Rockville, MD. (2012-13) Substance Abuse and Mental Health Services Administration, pp. 22-87.

Rydell, C. P. & Everingham, S.S. (1994) *Controlling Cocaine, Prepared for the Office of National Drug Control Policy and the United States Army*, RAND Drug Policy Research Center, Santa Monica, CA, p. 116.

Saloner, B. & Cook Benjamin L. (2013) 'Blacks and Hispanics are less likely than Whites to complete addiction treatment, largely due to socioeconomic factors', *Health Affairs*, vol. 32, no.1, p. 138.

Simpson, D.D. & Brown, B.S. (1998) 'Treatment retention and follow-up outcomes in the Drug Abuse Treatment Outcome Study (DATOS)', *Psychology of Addictive Behaviors*, vol. 11, issue. 4, pp. 294-307.

'Social reintegration and employment: evidence and interventions for drug users in treatment' (2012) Publications Office of the European Union, European Monitoring Centre for Drugs and Drug Addiction, EMCDDA, Luxembourg, Insights Series No. 13, p. 67.

Taleb, Md. Abu (2012) *Annual Report*, Department of Narcotics Control, Dhaka, p. 36.

United Nations Office on Drugs and Crime (UNODC) (2003) 'Developing a strategic framework for treatment', *Drug Abuse Treatment and Rehabilitation: A Practical Planning and Implementation Guide*, 2nd edn, pp. 1-18, United Nations, New York.

United Nations Convention on Psychotropic Substances, 1971 [Retrieve from: https://www.unodc.org/pdf/convention_1971_en.pdf]

Victoria Department of Human Services (2001) *Recidivism Among Victorian Juvenile Justice Clients 1997-2001*, Department of Human Services, Melbourne.

World Drug Report (2012) *UN Office on Drugs and Crime*, United Nations Publications, p. 4.

Justice Policy Institute (January 2008) 'Substance abuse treatment and public safety', Washington, DC, p. 2.