Effectiveness of Treatment and Rehabilitation Programs for Drug and Substance Dependence in Mombasa County, Kenya

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Abstract

Drug and substance abuse is a major public health problem worldwide especially in developing countries with Kenya being among the most affected countries in Africa. Research reveals high prevalence of substance use in the country with Mombasa leading in the Coast region. The associated detrimental effects in almost every aspect of life development necessitates for effective prevention, treatment and rehabilitation. An effective treatment should respond to mental, medical, legal, financial and family needs. The study strived to examine the effectiveness of treatment and rehabilitation programs for drug and substance dependence in Mombasa County, Kenya. A cross-sectional design was employed to evaluate three facilities with a sample size of 80 participants. Data was collected using questionnaires, in-depth interview and observation. Descriptive analysis was used for quantitative data while qualitative data was analysed thematically with logistic regression and paired sample t-test at CI 95% and p-value of <0.05 was considered significant. Findings revealed the programs had both pharmacological and non-pharmacological services with management of co-morbidities reported at 57.7% and vocational training (15.4%). Most of the service providers (80.8%) were trained on counselling. A 38.9% relapse rate was ascertained and among the associated factors was not being in support groups (OR=3.25, p-0.04). The programs were effective in improving the health, social and legal problems associated with substance use. It was established that the programs were mainly offering open access services and adhering to the recommended National and International Standards of substance use treatment. However, the study found that relapse rate was still high which is in line with other previous studies done in the Country. The study recommends the County government to establish a structured treatment facility and incorporate vocation training in recovery plan to ensure meaningfully engagement of the substance users and avoid idleness.

Keywords: Substance use, Relapse, Effectiveness, Treatment & Rehabilitation.

Introduction

Drug and substance abuse is becoming a disaster worldwide, Kenya being among the most affected countries in Africa (African Union, 2011). This has become a concern to various sectors within nations due to its detrimental effects in almost every aspect of life and development (Jones, 2011). There is therefore a need for prevention, effective treatment and rehabilitation so as to reverse the trends. In 2017, an estimated 271 million people worldwide aged 15 – 64 years had used drugs at least ones in the previous year (UNODC, 2019). This corresponds to 5.5% of the global population aged 15 – 64 years. Like-wise, in Africa, the prevalence of the use of opiates was estimated to be 0.9% corresponding to 6.1 million of the population. A rapid assessment survey on the status of drug and substance abuse done in Kenya by National Authority for the Campaign against Alcohol and Drugs Abuse (NACADA) in 2012 revealed that 37.1% of people aged 15–65 years and 3% of those aged 10-14 years reported to have ever used a substance of abuse at least once in their life time. In 2017, the authority reported a prevalence of 18.2% of Kenyans aged 15 – 65 years using at least one drug or substance of abuse (NACADA, 2019). A Coast baseline survey on alcohol, drug and substance use showed that Coast region had a prevalence of 29.3% with Mombasa County leading at 34.4% followed by Lamu 32.0%, Tana River 31.1%, Kilifi 29.7%, Kwale 26.0% and Taita Taveta 20.7% (NACADA, 2016).

The accessibility, affordability, and consumption of abused drugs have attracted great concern among public health personnel. In Kenya, the alcohol and drug abuse problem presents a significant concern to health, economy, and security in attainment of national development goals (NACADA, 2012). Some of the health effects associated with drug and substance abuse as documented by Jones. et al, 2011 and Africa Union, 2011 are psychiatric disorders, liver cirrhosis, hepatitis, TB, Ulcers and HIV/AIDS.

The World Health Organization (WHO) stated that by the year 2020, mental and substance use disorders will surpass all physical diseases as a major cause of disability worldwide (Kemei, 2014). In support for this, high rates of substance use have been reported among inpatient psychiatric population in Kenya and Tanzania (Salwan, 2014). Apart from drugs being a grave threat to health of all mankind, it also affects the independence of states, democracy and stability of nations, the structure of all societies and the dignity and hope of millions of people (Kemei, 2014). All these findings warrant the need for every country to have in place mechanisms for dealing with the global problem of drug and substance abuse. Most importantly, there should be establishment of effective treatment and rehabilitation programs within nations.

Most African countries' national health-care systems are unable to meet the needs of their citizens with regard to the treatment and rehabilitation of drug-dependent persons. This is because the national medical facilities for such treatment and rehabilitation are often seriously inadequate or simply non-existent (Kasirye, 2009). Kasirye further stated that, treatment and rehabilitation of drug dependent persons in Africa often depend on assistance from relevant international organizations, such as WHO, UNODC and non-governmental organizations.

Addiction treatment and rehabilitation in Kenya is largely a private sector and NGO affair dating back to 1978. Due to the rising demand, in 2003 the Kenyan first public facility for treatment of drug and substance disorder (Mathari) was established through a collaborative effort of the Ministry of Medical Services and the UNODC (African Union, 2011). The treatment centre provides detoxification, rehabilitation and treatment of co-morbid psychiatric disorders incorporating a well-refined referral system to those with physical illnesses or those in need of specialized treatment. Currently the country has four public treatment and rehabilitation centres with several private and community based facilities totalling to almost 48 centres but still the problem of drug and substance dependence persist.

All treatment and rehabilitation programs are encouraged to be based on the existing national principles and standards, and effective program should incorporate concepts that promote individualized cost-effective treatment. These concepts involve comprehensive assessment and treatment to address patients' physical, psychological and social needs (WVDHHR, 2011). The concept conforms to the Kenyan principles of addiction treatment with the addition of after care or recovery management. The recovery management is meant to reduce the risk of relapse by supporting change in ones' social functioning, personal wellbeing as well as that of their place, community and the wider society (MOH, 2017). According to the United Nations treatment guide (UNODC, 2003), there are two modalities of treatment which are open access and structured services. Open access are informal services acting as important points of first contact for people with drug-related problems while structured services are integrated comprehensive programs characterised by a formal assessment with development and monitoring of individualised plan of care.

Researchers found that factors such as, treatment status (mandatory/voluntary, residential/non-residential), self-awareness of the problem and severity of addiction do impact on the effectiveness of a program by mediating the motivation of the participants (Regine, 2008). Another factor found to impact effectiveness within centres was a structured environment (Burgess, 2005).

According to Burgess, long term and short-term residential programs are both successful but individuals participating in long term treatment (up to a year) have higher level of abstinence compared to those in short term (up to 3 months).

The study further states that three out of four respondents indicated that aftercare program was the primary reasons for their abstinence. This was due to the fact that, aftercare assisted in the avoidance of triggers that could cause relapses, taking up new hobbies and exploration of individual spirituality. This conforms to a study in Kenya where majority of the rehabilitation centres (91.4%) in Kisii offers after care services (Sereta, 2016). The study further established that, after care services were effective in assisting recovering users in maintaining sobriety and enabling emotional healing.

It was found that effectiveness of treatment and rehabilitation program in Nairobi is hindered by factors such as; Lack of qualified personnel, lack of community participation, lack of medicinal drugs and lack of aftercare services (Kairanya, 2010). These factors somehow conform to those documented by Sereta and others (2016) who found that some of the challenges faced by Kisii treatment and rehabilitation centres were; Inadequate financing, lack of staff and overburdened staff, lack of medication and irregular follow up services.

According to a report on Adolescent Relapse Prevention, 78% of those undergoing treatment and rehabilitation do relapse during the first six months of recovery (Gorski, 2001). A study in Kerman (a Province in India) identified environmental factors such as peer group and availability of drugs and substances of abuse to be the causes of relapse among adolescents (Golestan, 2010). The study emphasised on the need for self-help groups which give support to the addicts and help family members understand addiction hence, avoid relapse.

An analysis report on the outcome of treatment among adults and adolescents in Philadelphia shows a 60% - 80% relapse rate within 90 days after treatment and a 34% relapse rate within 3 days after treatment (White, 2012). Based on these outcomes, it was suggested that upon completing treatment, all individuals should be provided with assertive mechanisms of post treatment monitoring and support.

In South Africa, the relapse rate was found to be dependent on the type of facility (in-patient or out-patient) and location of the facility (in small or bigger towns). The relapse rate was 50% for cannabis, 33% for alcohol and 65% for harder drugs such as cocaine and heroin. High relapse rates were reported from outpatient facilities since they have little control over their patients. This is according to a report on epidemiology of drug abuse treatment in South Africa (Ramlagan, 2010). These relapse statistics somehow conform to Kenyan findings from various studies with regard to effectiveness of the existing treatment and rehabilitation programs. Among inpatient alcoholics in Nairobi, it was found that 39.2% of them were readmitted to hospital within the first year after treatment (Githae, 2016). This was found to be related to family members being over caring for the recovering drug users which later leads to relapse

An estimated long-term relapse rate was found to vary between 20% and 80% among persons with alcohol dependence after a community-based treatment within some of the rehabilitation centres in Nairobi (Kuria, 2013). Apart from the earlier mentioned causes of relapse, other factors seen to be associated with this problem in Kenya are, high rates of unemployment, family and community stigma, lack of social support and poor or no follow up care (African Union, 2011).

In efforts to address the high rates of substance use relapse within the country, four community based organizations that include Nairobi Outreach Services Trust (NOSET), Reach out Centre Trust, Muslim Education and Welfare Association (MEWA) and The Omari Project (TOP) among others with support from the United Nations Office on Drugs and Crime (UNODC) were established to provide a basic package for drug abuse prevention, care, and treatment to people who use drugs including injecting drug users in Nairobi, Mombasa and Malindi. Hence, it is in light of these efforts and the prevailing substance use and relapse statistics that this study seeks to assess the effectiveness of the treatment and rehabilitation programs for drug and substance dependency in Mombasa County. This was done by responding to the following specific objectives;

a) Examining the nature/level of treatment

and rehabilitation programs utilized in the treatment and rehabilitation centers.

b) Determining the rate of treatment relapse in the selected rehabilitation centers.

c) Assessing the factors associated to relapse in the selected rehabilitation centers.

d) Establishing adherence to recommended national/international requirement for rehabilitation and treatment of drug and substance dependency.

Methodology

The study was conducted in Mombasa County which is one of the six counties in Coast region and among the 47 counties of Kenya. The county serves as the major centre for tourism industry due to its largely distributed sea shore and ancient buildings. This flourishing tourism industry together with the port harbour plays a greater part in predisposing the youths in the county to not only consumption but also trafficking of drugs (NACADA, 2011). The county also has two major initiation and habituation factors to drug and substance abuse which are, idleness and unemployment where only 1.5% of the unemployed poses formal education beyond secondary level (Gituma, 2015).

The study adopted a cross sectional design that collects information at the same point in time from a sample drawn from predetermined population. The population comprised of individuals aged 18 years to 65 years drug and substance users undergoing treatment and rehabilitation in the selected centres. The study also included the service providers within the centres and some of the drug users care takers.

Limitations involved were; the time duration following discharge for those on follow up and those re-admitted as it may contribute to recall bias among the clients. Second limitation was related to generalizability of the findings reasons being that, demographic and socioeconomic characteristics of the clients attending treatment centres might be different from those who do not attend the centres in attempt to abstain. Finally, relapse is recognized as a product of interaction of many more factors than the relatively few factors considered by this study. Hence, the findings are applicable only to those attending drug treatment centres to quit and applicable only to Mombasa County and other areas with similar characteristics in regards to effectiveness of the rehabilitation programs in place. To reduce recall bias, the study did not include those on follow up for more than 6 months after discharge.

The participants were informed on their right to withdraw at any time during the study. Permission to conduct the study was obtained from the Moi University Institutional Research and Ethics Committee and from the treatment centres administrators.

A sample sizes of 97 inclusive of 10% increase was calculated using Epi Info 7 at 95% CI, a power of 80% and a ratio1. Convenient sampling was used to select treatment centres, purposive sampling was used to identify the service providers while the clients were selected randomly. Data was collected using questionnaires, in-depth interviews and observation.

Table 1

Category	MEWA	Reach Out	Eden	Total
Service providers	12	15	6	33
Clients	27	28	9	64
Total	**39**	**43**	**15**	**97**

Sampling Table

The study employed both quantitative and qualitative methods. Descriptive statistics were used for quantitative data and presented using frequency tables, charts and graphs. Qualitative data was categorized and thematic content analysis done where a constant comparative method was used to enable comparison with previous findings on same issues. Binary logistic regression and a paired sample t–test statistics were used to ascertain the association between relapse and the various predictors, the effectiveness of the programs and the significance of the outcome.

Results

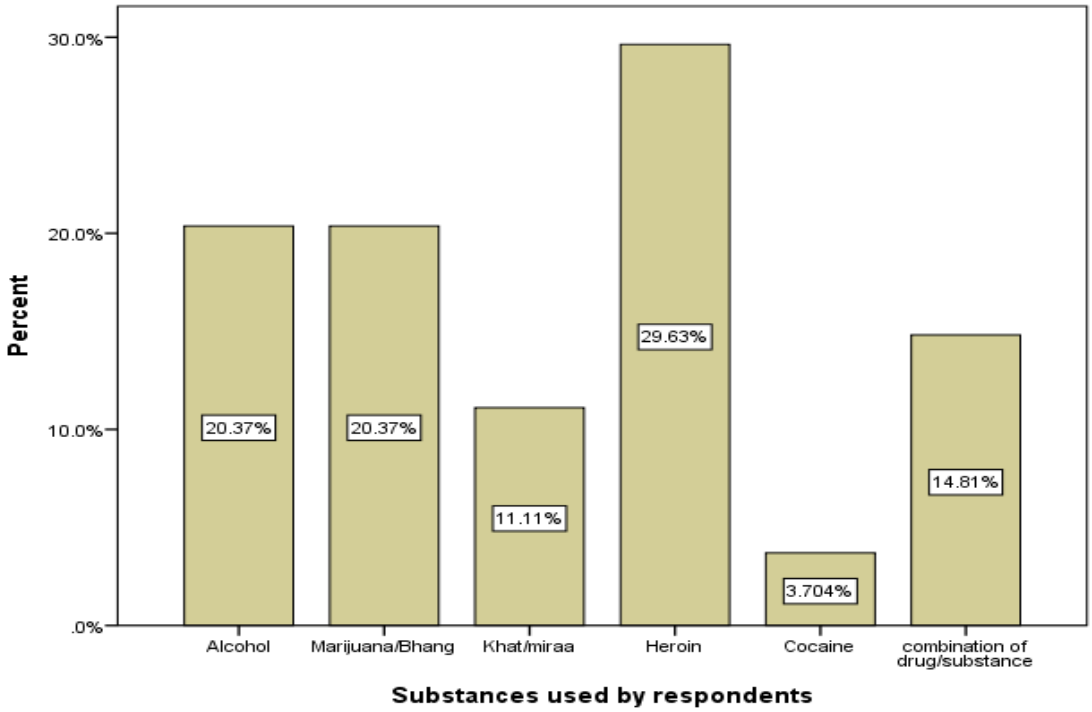
Data was analysed from 80 participants out of the 97 earlier sampled, a response rate of 82%. This comprised of 54 clients and 26 service providers. 63% of the clients were male with majority (53.7%) being in the age category 29-39 years. Majority of the clients had attained primary (37%) and secondary (31.5%) education with very few (7.4%) having degree. Most of the clients had stayed in treatment for 1 – 3 months and 4 – 6 months both at 35.2% with those who have stayed for more than 6 months being 29.6%. Out of the 26 services providers, 42.3% were diploma holders with 7.7% having attained degree level and only 3.8% having masters. Notably, 73% of the service providers were trained on treatment of drug and substance dependence where 80.8% were trained on counselling, 96.2% on risk management and 11.5% were trained on psychiatry. Majority of them were counsellors, with 2 clinical officers, 2 nurses and 1 counselling psychologist.

Table 2

Characteristics of clients	F	%	Characteristics of service providers	F	%
Gender			**Education level**		
Male	34	63.0	Secondary	5	19.2
Female	20	37.0	Certificate	7	26.9
Age			Diploma	11	42.3
18 – 28	14	25.9	Degree	2	7.7
29 – 39	29	53.7	Masters	1	3.8
40 – 50	4	7.4	**Trained on treatment of SUD**		
51 – 61	7	13	Yes	19	73.1
Education level			No	7	26.1
Primary	20	37.0	**Type of training**		
Secondary	17	31.5	Psychiatry	3	11.5
Certificate	7	13.0	Counselling	21	80.8
Diploma	6	11.1	Addiction counselling	10	38.5
Degree	4	7.4	NACADA training	5	19.2
Treatment Period			Risk management	25	96.2
1 – 3 months	19	35.2	Overdose management	19	73.1
4 – 6 months	19	35.2			
>6 months	16	29.6			

General Characteristics of Participants

Prevalence of the substances used



Substances Used By Respondents

Majority of the clients were heroin users, 29.63% followed by alcohol users, 20.37% with very few of them 3.7%, having been using cocaine.

Level/nature and type of services provided

Two of the three sampled centres had out-patient, residential, non-residential and aftercare programmes while one centre had residential and aftercare programs only. Out-patient services were mainly provided as individual counselling, routine clinical, community outreach and street services. It was also observed that two of the centres had high number of clients with opioid use problem and they provided a conducive environment where the clients could pass by at any time for meals, shower and management of minor illnesses (drop in centre). The centre with residential and aftercare programs mainly had clients with alcohol use problem and it was located in a very closed and serene environment away from the general community.

Table 3

Services provided	Percentage
Detoxification	100.0
Psychosocial support	100.0
Family therapy	84.6
Behavioural counselling	42.3
12 steps program	100.0
Vocational training	15.4
Medical Assisted Therapy	84.6
Life skills training	84.6
Linkage and referrals	57.7
Management of co-occurring diseases	57.7

Services Provided From The Centers.

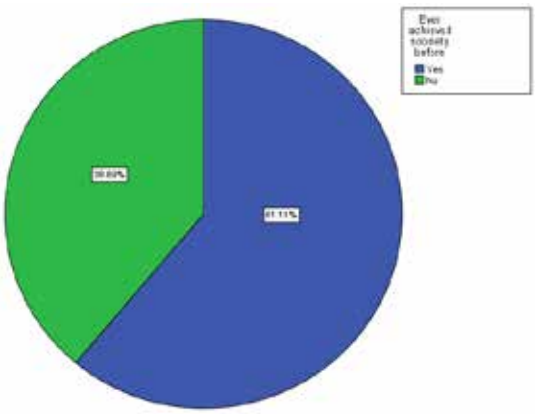
Services provided were mainly detoxification, psychosocial support and the 12-steps programme. Other services provided were Medical Assisted Therapy at 84.6%, management of co-morbidities at 57.7% and vocational training at 15.4%. Screening and assessment

were considered as pre-requisites for care in all the centres. The tools mainly used in both centres were ASSIST and ASI while AUDIT, CAGE and DAST were inconsistently used. Relapse prevention was stated to be incorporated in all the services provided and other measures used were legal aid to those with criminal cases and retaining some of the clients as service providers. Other relevant programs stated to be offered by the centres were Spiritual programs, Outreach programs where they visit the drug dens for counselling services, HIV testing, management of abscesses and overdose management in case of emergencies. It is also from this program that they get to enrol some of the clients to the main program. Income generating activities support groups were also established. It was observed that there were inadequate and inappropriate facilities for expectant and nursing mothers such as lack of separate accommodation, child care services, ante-natal and family planning services.

Relapse rate and its associated factors

This was ascertained through the sobriety state on the time of data collection.

Figure 2



Clients Who Had Achieved Sobriety

Among the 54 clients, 33 (61.11%) of them reported to have been able to stay away from drug and substance use (abstained) while 21 (38.89%) were still using (relapsed).

Factors associated to relapse

Logistic regression was employed to ascertain the association of the following factors to relapse.

Table 4

Predictors		Odds Ratio	CI (95%)	P-value
Not associating with those in recovery		3.250	1.039 – 10.162	0.043
Not receiving aftercare services		1.320	0.441 – 3.953	0.620
Being in an outpatient program		2.558	0.835 – 7.831	0.100
Sub-stance involved	Alcohol	1.389	0.216 – 8.916	0.729
	Heroin	2.143	0.376 – 12.197	0.390
	Cannabis	0.370	0.046 – 3.015	0.353

The Relationship between 'Relapse' and 'Predictors'

From the above table, not associating with those in recovery or not being in a support group had a significant association to relapse (OR 3.25, P<0.05) compared to lack of aftercare, outpatient program and category of the substance used. Although all the Odds Ratio (OR) for the assessed predictors lied between the upper and lower Confidence Interval (CI 95%), a P-value of less than 0.05 was considered significant. Other factors relating to relapse included environmental and community factors such as availability and ease of accessibility of the drugs and substances, peer pressure and idleness.

Adherence to recommended national/ international requirement for rehabilitation and treatment of drug and substance dependency.

The following thematic areas were looked into:

Table 5

Thematic areas	Common themes	Findings
Nature and type of the program	Level of services provided	Residential, Non-residential, outpatient and community outreach services
	Duration of treatment	Majority is 1 -3 months with few extending to 6 months and above for aftercare services
	Services provided	Mainly detoxification, MAT, Psychosocial support & 12-steps program. Assessment & screening as a prerequisite
Environment and facility set up	Facility location	Residential facilities for two of the three centres were in serene environment
	Adequacy	Inadequate accommodation for residential
	Special provision	One centre had expectant and nursing mothers with inadequate and inappropriate facilities
Service providers/ staffing	Qualification	Majority had diploma and certificates
	Category	Majority were counsellors with 2 Clinical Officers, 2 Nurses and one Counselling Psychologist

Adherence to Recommended National/International Standards

Effectiveness of the treatment and rehabilitation programs.

The following factors were stated by the clients which make them feel they have become responsible citizen following treatment and were also stated by the staff as the expected outcome of the programs. These factors were based on the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) and Addiction Severity Index (ASI) which are tools used for screening and assessment on patient admission. These are also among the outcomes of effective treatment according to UNODC, 2003 in the treatment guide.

Table 6

Effectiveness of the programs	Frequency	Percentage
Improved in education	18	33.3
Better legal status	23	42.6
Stopped/reduced drug use	36	66.7
Improve in employment	17	31.5
Family acceptance	31	57.4
Good health	32	59.3

Effectiveness of The Treatment And Rehabilitation Programs

Reduced/stopping drug was considered the main factor at 66.7%, improved health at 59.3% and family acceptance at 57.4%. Other factors were better legal status, improved education and employment.

To assess the effect of the program towards above mentioned outcomes, a paired t-test was employed to compare and ascertain the significance of the difference. This was on the client's response on failure to fulfil major responsibilities (missing work. failing to look after children properly, failing to maintain a relationship with partner etc.) and experiencing health, social, legal and financial problem at the time of the study and what was recorded during client admission based on the assessment and the screening tools. A Likert scale of 0 to 8 was used to ascertain how often was the use of substance leading to failure to fulfil major responsibilities and 0 to 7 for how often has one experiencing health, social, legal and financial problems due to substance use in the past 3 months.

Table 7

Pairs	Mean	Std D	Std.E	95% CI		T	df	P-value
				Lower	Upper			
Failure to fulfil major responsibilities	2.259	1.750	.238	1.782	2.737	9.485	53	.000
Experiencing health, legal, social or financial problems	3.352	2.103	.286	2.778	3.926	11.714	53	.000

Paired Sample T - Test for Programs' Effect on Problems Associated With Substance Use

The mean differences were lying between the upper and lower confidence interval with p-values of < 0.05 suggesting a significant difference hence, an improvement on the failure status to fulfil major responsibilities and experiencing health, social, legal and financial problems following treatment.

Discussion

The programmes provided were mainly out-patient, residential, non-residential and community outreach. This is in accordance with the recommended levels of care by the American Society of Addiction Medicine (ASAM) criteria and the Kenyan treatment and rehabilitation protocol (MOH, 2017). Based on the services provided, Therapeutic community (TC) model was utilized which is characterised by 24 hour residential program with planned length of stay of up to 12 months (NIDA, 1999). This model was established to be successful in terms of efficacy both short term and long term programs (Burgess, 2005). Use of behaviour change models such as Community Reinforcement Approach (CRA) was evident in both centres and this was through the out-patient, outreach and street services as a way of building trust with the clients.

A relapse rate of 38.89% was ascertained and although majority of the clients were opiates users, these findings closely replicate the findings in a study among alcoholic in-patients in Nairobi which had a relapse rate of 39.2% (Githae, 2016). In relation to research findings outside the Country, the rate is a bit low than the 60% -80% among adults and adolescents in Philadelphia (White, 2012). Majority of the clients were heroin users and heroin was found to be strongly associated to relapse (OR 2.143) compared to the other substances. Although the significance of association was low in this study, the findings were in line with previous studies in South Africa which found a relapse rate of 33% for alcohol and 65% for harder drugs such as cocaine and heroin (Ramlagan, 2010). Outpatient programme was strongly associated with relapse (OR 2.558). These findings are in line with what was stated on abstinence rate for problem drinkers where a 29% abstinence rate was found with outpatient treatment. This was lower compared to 52% abstinence rate with inpatient treatment (White, 2012). It was also found in South Africa that out-patient programs have high rates of relapse due to service providers having less control on the patients (Ramlagan, 2010). The study found that not being in support groups had a significant association to relapse (OR 3.250, P 0.043). This is in line with previous findings in South Africa where high relapse rate was found among those who were not in support groups and 73.3% of those in recovery reported that being in support groups was the main reason for their abstinence (Burges, 2005). Other associated factors were environmental and community factors concurring with findings in India by Golestan, 2010.

Clients assessment and screening was considered a pre-requisite in all the centres before a client is admitted to the program and all the centres were using ASSIST and ASI as there standard tools. This is a standard requirement by both NACADA and NIDA to ensure that there is individualised

treatment plan that will comprehensively address the needs of the clients although, the centres had limited capacity for clients with special needs such as expectant and nursing mothers. Services provided were pharmacological mainly for detoxification and non-pharmacological services such as psychosocial support and incorporating some vocational training. This conforms to the Kenyan National treatment protocols and the NIDA treatment guidelines. With regards to period of treatment and rehabilitation, majority had been in the program for a period of 1-3 months and 4-6 months. These findings suggested that the facilities were adhering to the recommended minimum 3 months of treatment stated by National and International protocols. Majority of the service providers had diplomas with few having degree and masters. Each centre had Addiction counsellors, social workers, clinical officer and nursing officer but there was no occupational therapist in any of the centres. This conformed to the treatment criteria provided by the Ministry of Health in Kenya (MOH, 2017) and supported by NACADA guidelines. According to NACADA guidelines on hospital or residential settings, the essential staff requirements are Medical Officer/Clinical Officer, Nursing Officer, Addiction Counsellors, Medical Social Workers and Occupational Therapist.

Conclusion and Recommendations

The treatment and rehabilitation programs in Mombasa County were found to be mainly open access services with little incorporation of structured treatment services. The effectiveness of the treatment and rehabilitation programs in place based on the input processes and the expected outcome was that;

Models of treatment provided and the services delivered were in accordance to the recommended scientific based models of treatment and services by the National and International Standards based on the nature/level of the program. All the sampled centres were adhering to most of the stipulated treatment protocols although pharmacological services provided were mainly for detoxification and vocational training was minimally considered. Majority of the service providers had the minimal recommended qualifications of a diploma and at least every centre had a qualified health care officer. Although, there were no occupational therapist and provisions for clients with special needs such as expectant and nursing mothers was limited. With regards to the duration of treatment, the programs were adhering to the recommended minimum period of three months but less concern was given to after care services.

On the expected outcome of the program, the abstinence rate was high however, the relapse rate was also still high and in line with findings of previous studies within the Country. Although there were variations among the predictors. With regard to failure to fulfil major responsibilities such as household, family, community and work responsibilities which are usually affected with drug and substance dependence, there was an improvement in terms of frequency from the pre and post status analysis suggesting a positive program outcome. A pre and post status analysis for any health, social, legal and financial problems due to the drug and substance dependence also suggested a reduced frequency in experiencing these problems after treatment and rehabilitation. These findings suggest that the improvement in fulfilling major responsibilities and reduced health, social, legal and financial problems was strongly contributed by the treatment and the rehabilitation program.

Based on the findings, the study recommends that:

The management of drug and substance dependence in the open access centres should not be limited to detoxification as it is in most of the centres but emphasis should be given on management of co-morbidities, family interventions and aftercare service through consistent follow ups either through home visits, phone calls or at the centre.

The County health department in partnership with other responsible agencies should ensure routine inspection of the treatment centres and ensure enforcement measures so as to ensure adherence to the recommend treatment protocols and uniformity.

Statutory institutions mandated for control and regulations on treatment and rehabilitation of people with drug use disorders should advocates for more research on effectiveness that captures large sample size and incorporates diverse predictors of relapse for better understanding hence, better strategies for the problem

References

African Union, 2011. Let the Continent Speak Out; *Drug News Africa*

Burgess, 2005. *Efficacy of long-term and short-term residential substance abuse treatment modalities;* Alabama

Golestan, 2010. Environmental Factors Influencing Relapse Behavior among Adolescent Opiate Users in Kerman (A Province in India); *Clobal Journal of Human Social Science*

Githae, 2016. *Family Emotional Over-involvement and Relapse Among Inpatients Alcoholic in Nairobi, Kenya;* Nairobi

Gituma, 2015. *The Drug Menace at the Kenyan Coast.* The Cradle; Promoting Justice for Children

Gorski, 2001. Adolescent Relapse Prevention; *Mental Health, Substance Abuse, & Terrorism*

Jones, 2011. *A summary of the health harms of drugs;* LiverpoolLiverpool John Moores University

Kairanya, 2010. *Factors hindering treatment of drug abusers in selected drug treatment and rehabilitation centers in Nairobi Province, Kenya;* Nairobi

Kasirye, 2009. *Drug Abuse trends, magnitude and response in East African region;* WAFAD

Kemei, 2014. *Effectiveness of Drug and Substance Abuse Prevention Programs in Selected Public and Private Universities in Kenya,* Nairobi

Kuria, 2013. Factors associated with relapse and remission of alcohol dependent persons aftercommunity based treatment; *Open Journal of Psychiatry*

MOH, 2017. *The National Protocol for Treatment of Substance Use Disorders in Kenya.;* Nairobi

NACADA, 2011. *"Promotion of Evidence-Based Campaign" National Alcohol and Drug Abuse Research Workshop;* Nairobi

NACADA, 2012. *Rapid Situational Assessment of the Status of Drug and Substance Abuse in Kenya;* Nairobi

NACADA, 2013. *National Standards for Treatment and Rehabilitation of Persons with substance Use Disorders;* Nairobi

NACADA, 2016. *Status of Alcohol and Drug Abuse in the Coast Region, Kenya;* Nairobi

NACADA, 2019. *Tenth (10th) Edition of Biannual Report of the Status of Alcohol and Drug Abuse Control in Kenya;* Nairobi.

NIDA, 1999. *Principles of Drug Addiction Treatment: A Research - Based Guide;* United States. National Institute of Health

Ramlagan, 2010. *Epidemiology of drug abuse treatment in South Africa*

Regine, 2008. Mandatory treatment and Perception of treatment effectiveness; *Research & Issues Paper Series*

Salwan, 2014. A Review of Substance Use Disorder Treatment in Developing World Communities; *Reviews and Perspectives*

Sereta, 2016. An Assessment of Effectiveness of Drug Rehabilitation Programs in Kisii County-Kenya; *Journal of Health Education Research & Development*

UNODC, 2003. *Drug Abuse and Treatment Rehabilitation: A practical planninng and implementation guide;* Vienna United Nations.

UNODC, 2019. *Global Overview of Drug Demand and Supply.* World Drug Report; Vienna United Nations.

White, 2012. *Recovery/Remission from Substance Use Disorder.* Philadelphia; Department of Behavioral Health and Intellectual disAbility Servicces and the Great Lakes Addiction Technology Transfer Center

WVDHHR, 2011. West Virginia Department of Health and Human Resource. *Comprehensive Substance Abuse Strategic Action Plan.*West Virginia; Bureau for Behvioral Health and Health Facilities