Prevalence of Relapse amongst Substance Abused Patients in Federal Neuro-Psychiatric Hospital Calabar, Between 2015 to 2019

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Abstract: **This study was conducted to determine the prevalence of relapse among substance abuse patients in Federal Neuropsychiatric Hospital, Calabar between 2015 and 2019. Having obtained approval from ethical team of the hospital, the study was conducted. Two (2) research questions were raised to guide the study. A retrospective cohort study design was adopted to study a total of 139 substance abused patients' record from the research area, which was selected using systematic random sampling procedure. Data was collected using a self-developed and validated checklist by Nursing Department of the institution. Data obtained were analyzed using frequency counts and simple percentages, while the association between variables was achieved using Chi-square statistical analysis significant at 0.05. Findings from the study revealed that the prevalence of relapse among the patients in Federal Neuropsychiatric Hospital, Calabar between 2015 and 2019 is 23 per cent (n=32) indicating that in every 100 substance abuse patients admitted in the Hospital within these period, 32 experienced relapse. Within this period, the highest occurrence of relapse was recorded in 2016. Also, majority of patients with relapse were male, age ranged between 20 – 29 years, and were re-admitted in the Hospital for 2-3 times. The demographic characteristics that significantly associated with relapse within the period under study were; sex, age, marital status, educational level and occupation. Based on all these findings, it was recommended that clinicians and educators should work together to develop appropriate treatments strategy and after-care programs that will address the issue of substance use, relapse and prevention.**

Key words: **Substance abuse, Prevalence, Patients, Relapse, Mental Health, Abstinence**

I. INTRODUCTION

Substance abuse also known as drug abuse is a patterned use of a drug in which the user consumes the substance in amount or with methods which are harmful to themselves or others, and is a form of substance related disorder. The exact cause of substance abuse is not clear, with theories including a genetic disposition, learned behaviors from others or a habit which if addiction develops, manifest as chronic debilitating disease (Leikin, 2017).

According to the substance abuse and mental health service administration (SAMHSA) National survey on drug use and health, 23.5million people 12years of age and older needed treatment for an illicit drug and alcohol abuse problem in 2009, of this individual only 2.6million – 11.2 % only received treatment at a specialty facility.

WHO (2015) states that substance abuse refers to the harmful or hazardous use of psychotic substance, including alcohol and illicit drugs. Alcoholism and alcohol abuse are among the most common devastating and costly problem in the United States, in fact, recent studies have shown that approximately 53% of adult in the United States, have reported that one or more of their close relatives have a drinking problem. US alcohol statistic reveals that approximately 50,000 case of alcohol overdose are reported each year. In 2009, an estimated 30.2million people 12 years of age or older reported driving under the influence of alcohol at least once in the past years.

According to Ksir, Oakley and Charles (2011) criminal and antisocial behaviors occurs when a person is under the influence of a drug, and long term personality change in individual may occur as well. WHO (2015) reported that cannabis is by far the most widely cultivated, trafficked and abused illicit drug. About 147 people 2.5% of the world population consumes cannabis, (annual prevalence) compared with 0.2% consuming cocaine and 0.2% consuming opiate, though the number on cannabis consumer is greater than opiate and cocaine consumers.

According to Kadden and Vanden (2010), relapse in relation to drug misuse is resuming the use of drug or a chemical substance after one or more period of abstinence. The term is a land mark feature for both substance dependence and substance abuse, which are learned behaviors and is maintained by neuronal adaptation that mediates learning and processing of various motivational stimuli.

A retrospective survey conducted by Budney, Copelan and Norberg (2008), using a 10 point Likert scale showed that the intensity of aggression, anxiety, anger, cravings and depressive symptoms contributed to cannabis relapse. Relapse is a fairly common problem for people recovering from substance abuse or addiction, the national institute on drug abuse explains. Some people relapse while in the early stage of recovery, while others relapse after successfully avoided substance use for extended period of time and establishing a routine of substance abstinence.

According to Murmane and Howell (2011), reinstatement of drug use after a period of nonuse or abstinence is typically initiated by one or a combination of the three main triggers, which are stress, re-exposure to the drug priming and

environmental cues. Larimer, Palmer and Marlatt (2005), noted these cues to include any item, place or people associated with the drug. Theory also added that convert antecedents, which are less obvious factors influencing relapse, includes life style factors such as stress level and balance, by recognizing and coping with various immediate determinants and convert antecedents.

Stress adaptation theory (Seyle Hans 1976)

Hans Seyle stress adaptation theory also called the general adaptation syndrome (GAS) is used to describe the body physical responses to stress and the process by which people adapt. It also provides a framework for the link between stress and chronic illness. The general adaptation syndrome theory states that the body reacts to stress through three stages of adaptation, namely: Alarm, Resistance and Exhaustion. He described the physical response of the body to stress and defined a stressor as a non-specific response of the body to any demand placed on it.

When stress is first perceived, Seyle noted that the brain triggers an alarm reaction that releases hormones (epinephrine and norepinephrine) and prepares the body to fight and defend itself or run away from the treat, this is (the fight –flight response). However, if the individual successfully adapt by coping with the stressor, the body's heightened level of functioning returns to its usual pre-stress state. But, if the stress cannot be resolved, the body continues to function at a high metabolic rate and progresses towards the next stage of adaptation. However, in the resistance stage, the individual attempts to cope with the stress because one can either adapt to the stress or progresses to the body's final attempt at homeostasis. Thus, in the exhaustion stage, the individual has been overwhelmed and is beginning to relent and eventually breaks down.

In application, stress is a well-known risk factor in the development of addiction and in addiction relapse vulnerability. Hence, the more prolonged, repeated or chronic a stress, the greater the uncontrollability and unpredictability of the stressful situation and possibility of the individual seeking for substance to suppress (McEwen, 2010).

II. STATEMENT OF PROBLEM

The number of relapsed cases are on the increase, and as every mental health practitioner knows, relapse which is the resumption of substance use after a period of abstinence is a frustrating but a frequent part of the recovery process. Several substances, including opiate, cocaine and alcohol have particular high relapse rate with the majority of clients relapsing within one year following treatments. The first 90 days after treatment are an especially venerable time. (Hunt, Barnett and Branch, 2016). It is also known that women in substance abuse treatment are less likely to relapse than men in treatment. When women relapse, their reason for relapse differs from men (Green, Polen, and Dickson 2011).

According to Hubbard, Marsden and Rachael (2014), many people with chemical addiction eventually achieve and maintain permanent sobriety (often after repeated treatment), others do not. Research shows that fewer than half of all treatment clients achieve permanent abstinence, even though treatment does result in substantial decrease in the drug use.

Frequency of substance relapse is the highest of all diagnosis followed by Bipolar Affective Disorder (BAD) in Federal Neuro-Psychiatric Hospital Calabar. Within the five acute wards, this case is admitted into all others having outnumbered its special ward—Drug Ward 4. Within the period of study, there is no month without this admission especially during festive and year ends (FNPH/OPE/ADM. Reg. /Vol. 7). In every month, over 74% of cases are relapsed substance abuse. Cases are admitted with presenting complaints like returning back to substance use after few months of abstinence, irritability, aggression, destruction of personal valuables and un-productivity to self and family. Within each admission family is faced with >70% disease burden coupled with admission fees, drug, laboratory investigations and divided homes.

While on admission, the most demanding patients are the relapsed substance use since they are more within reality and less beyond the blues. This is where they vent their unresolved worries, family discords, dissatisfaction with governments and organization policies. Though resolution is fast, they do instigate other in-mates into riot, revolution and fight among themselves and caregivers.

It is also undoubtedly true that few researches have been conducted in the area of relapse in mental illness, substance abuse patients tend to be at the high rate of relapsing after recovering from their conditions. It is based on the above problem that this research is aimed at determining the prevalence of relapse amongst substance abused patients in Federal Neuropsychiatric Hospital, Calabar.

The main purpose of this research study is to investigate the prevalence of substance abuse relapse amongst patients in Federal Neuropsychiatric Hospital Calabar between 2015 to 2019. The study will specifically look at:

1. Determine the prevalence of relapse among substance abuse patients.
2. Identify the demographic determinants of relapse among substance abuse patients.

Research Questions

The following research questions were formulated to serve as a guide to this research work:

1. What is the prevalence of relapse amongst substance abuse patients?
2. What are the demographic determinants of relapse among substance abuse patients?

Significance of Study

This study will be of immense benefit to the drug addicts, drug prevention agencies, government and future researchers in carrying out more studies on this or other related issues. It will help in educating those abusing drugs on the causes of relapse in mental illness, the gender mostly affected and some reasonable suggestions will be made to help reduce its occurrence.

The researcher met the following hindrance during the conduct of the study:

1. Improper documentation of data by staff on duty was a major limitation to the study.
2. Limited time constraint to recover concerned files
3. Missing folders due to activities of the vandals who destroyed hospital documents in recent ENDSARS protect in the facility

III. METHODOLOGY

This segment highlights the methods researchers adopted to achieve the purpose for which this study was conducted. It consists of the research design, population of study, sample and sampling technique, instrument for data collection, data collection procedure, method of data analysis, and ethical considerations.

Research design

The research design adopted for this study is the retrospective cohort study design. A retrospective cohort study allows the investigator to describe a population over time or obtain preliminary measures of association to develop future studies and interventions. The exposure and outcome information in a cohort study are identified retrospectively by using administrative datasets, patient's medical records, conducting interviews, etc. This design is considered appropriate for this study as the researcher is interested in raising data from the health records of substance abuse patients admitted in Federal Neuropsychiatric Hospital, Calabar between 2015 and 2019. This will enable her obtain the prevalence of relapse among these patients within the period under study.

Research Setting

The site of study is Federal Psychiatric Hospital, Calabar located in the State Capital of Cross River State, Nigeria at No. 113 Calabar road. It is bounded northward by Calabar road, Southward by Target road, eastward by White house road and westward by Edgerly road. It is a specialist hospital vested with effective care delivery in psychiatric and mental healthcare and treatment. It was founded in 1903 by British Colonial Government as the first psychiatric Hospital in the Southern Nigeria. It was then known as Asylum where nurses and other health care providers were regarded as custodians. The Europeans therefore handed over to her the enduing skill and techniques in psychiatry concepts, manpower, and experience of psychiatric managements. The hospital aims at promoting mental health, treating abnormal behaviors to restore reality functioning and rehabilitating the mentally disable (Jonathan, 2017).

She offers psychiatry services to inhabitants of South South Senatorial Zones of Nigeria which comprise of Bayelsa, Imo, Akwa Ibom, Cross River, Ebonyi, and Rivers States. Due to long year of service and experience, inhabitants of South Cameroun even descend to obtain psychiatric treatments from the facility. The hospital is equipped with professionals in the field of nursing, medicine, pharmacy, social works, medical recorder, laboratory science, occupational and rehabilitation workers.

This serves as the only credible psychiatric facility funded by the Federal Government to cater for mental health issues. Her total budgetary allocation as at 2016 was ₦1,969,957,480.00 to cater for personnel costs, overhead costs, recurrent expenditure, current and capital expenditures. From this amount cost of maintaining Psychiatric School of Nursing, Psychiatric Hospital and a permanent site structure at Adiabo is inclusive (FGN BUDGET PROPOSAL, 2016).

For effective psychiatric healthcare in-line with diagnostic, therapeutic, rehabilitative, promoting and prevention of mental illness, the following departments are in to enhance the treatment wards initially designed to encase the insane: occupational therapy unit, recreational therapy unit, Kettering department, scientific laboratory, pharmacy, health records department, electro-convulsive unit, social works department, psychology unit, radiology unit, electro encephalogram unit, nursing department and the medical officers.

Population of study

The population of study consists of all patients with history of substance abuse admitted and managed in Federal Neuropsychiatric Hospital, Calabar between 2015 and 2019. According to the Records Department of the Hospital, a total of 213 substance abused patients were admitted in the Hospital within the period under study.

Sample and sampling technique

The sample size for this study consisted of 139 substance abused patients admitted in Federal Psychiatric Hospital, Calabar between 2015 and 2019. The sample size was obtained using Taro Yemen formula for sample size determination as shown below:

$$n = \frac{N}{1+N\,(e)^2}$$

Where n = sample size

N = population size = 213

e = level of precision = 0.05

$$n = \frac{213}{1+213\,(0.05)^2}$$

$$= 139$$

These patients were selected proportionately selected from 5 Wards in the Hospital including Ward 1, 2, 3, 4, and 5. The sampling distribution for the study is shown in Table 3.1 below.

Table 3.1: Sampling distribution

S/No.	Class	Student population	Sample size
1.	Ward I	21	14
2.	Ward II	52	34
3.	Ward III	32	21
4.	Ward IV	66	43
5.	Ward V	42	27
	Total	213	139

To select the patients' folders from the respective Wards, systematic random sampling technique used. Hence, the folders were arranged and numbered beginning from 1 after which all even numbered folders were selected for the study.

Instrument for data collection

The instrument for data collection was a checklist designed by the researcher to obtain the patients information from their respective folders. The instrument consists of two sections A and B. Section A obtained the socio-demographic characteristics of the patients, while section obtained B obtained information related to patient's admission and re-admission.

Validity of instrument

Validity of a research instrument refers to the extent to which the instrument measures what it is designed to measure. In this study, face validity was established. Face validity refers to the outward appearance of the research instrument. It took care of the relevant content on which the instrument was based. The checklist developed by the researcher was presented to the researchers' supervisor; and the supervisor after making relevant modifications certified that, the instrument is suitable for the study.

Reliability of instrument

Reliability refers to the degree of consistency with which an instrument measures what it is supposed to measure over time. In this study, instrument reliability was not considered since the instrument is a checklist meant only to obtain an existing data from the patients' medical record.

Procedure for data collection

The researcher collected data from the folders of substance abuse patients who were admitted in the hospital within the period under study. With the aid of two nurse assistants, the researcher moved from Ward 1 to 5 and selected the folders of these patients. After the selection, she took time to go through the folders to pick relevant information using the checklist as a guide.

Method of data analysis

Data collected were presented using frequency table and charts, while statistical analyses were performed using descriptive statistics including frequency counts, simple percentages, mean and standard deviation. The association between variables was achieved using Chi-square statistical analysis significant at 0.05.

IV. RESULTS

This section highlights data presentation, analysis and discussion of findings. Data was obtained from the health records of 139 substance abused patients admitted in the Hospital between 2017 and 2019 using a checklist. Data obtained are presented using frequency table and charts, while descriptive statistics of frequency counts and simple percentages were used as tools for data analysis. The association between variables in the study was achieved using Chi-square statistical analysis with its level of significance set at 0.05.

Presentation of demographic data

Table 4.1: Distribution of patients by sex (n=139)

S/No	Sex	Frequency	Percentage (%)
1.	Male	96	69.1
2.	Female Total	43 139	30.9 100

Source: Patients' health record, 2015-2019

Table 4.1 above shows that out of the 139 substance abused patients used for the study, 96 (69.1%) were male while 43 (30.9%) were female.

Table 4.2: Distribution of patients by age (n = 139)

S/No	Age (years)	Frequency	Percentage (%)
1.	< 20	45	32.4
2.	20 – 29	52	37.4
3.	30 – 39	29	20.9
4.	40 & above	13	9.4
	Total	139	100

Source: Patients' Health Records, 2015-2019

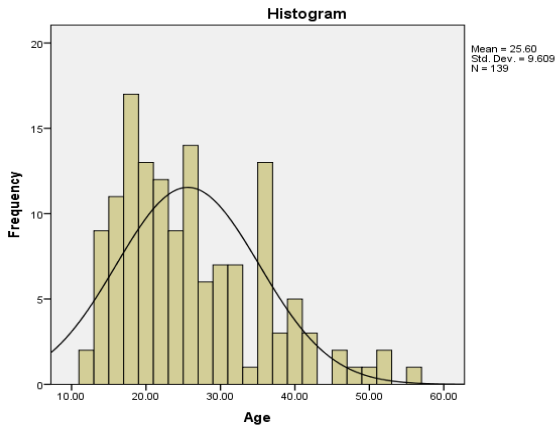

Figure 4.1: Histogram showing the respondents' by age

Table 4.2 and figure 1 presents the respondents distribution by age. According to the Table, 45 (32.4%) out of the 139 patients were less than 20 years of age, while 52 (37.4%) were between 20 – 29 years, 29 (20.9%) were between 30 – 39 years, and 13 (9.4%) were 40 years and above. Figure 4.1 shows that the mean age of the 139 patients is, 25.60±9.609 years.

Table 4.3: Distribution of patients by marital status (n = 139)

S/No	Marital status	Frequency	Percentage (%)
1.	Married	10	7.2
2.	Single	65	46.8
3.	Divorced	26	18.7
4.	Separated	5	3.6
5.	Widow	33	23.7
	Total	139	100

Source: Patients' Health Record, 2015-2019

Table 4.3 shows that 10 (7.2%) out of the 139 patients were married, 65 (46.8%) were single, while 26 (18.7%) were divorced, 5 (3.6%) were separated, and 33 (23.7%) were widows and/or widowers.

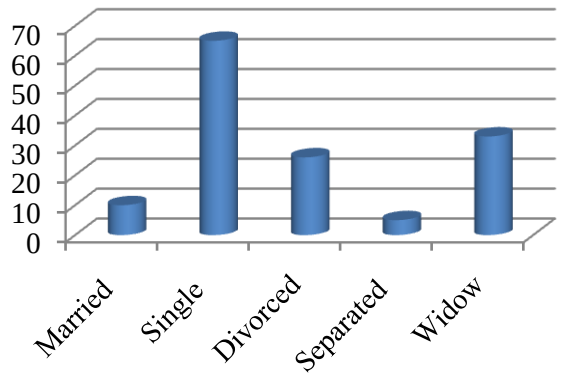

Figure 4.2: Cylindrical bar chart showing the respondents by occupation

Table 4.4: Distribution of respondents by religion (n = 139)

S/No	Religion	Frequency	Percentage (%)
1.	Christianity	102	73.4
2.	Islam	16	11.5
3.	Others	21	15.1
	Total	139	100

Source: Patients' Health Records, 2015 – 2019

Table 4.4 shows that 102 (73.4%) out of the 139 patients used for the study were Christians, while 16 (11.5%) were Muslims, and 21 (15.1%) had other forms of worship.

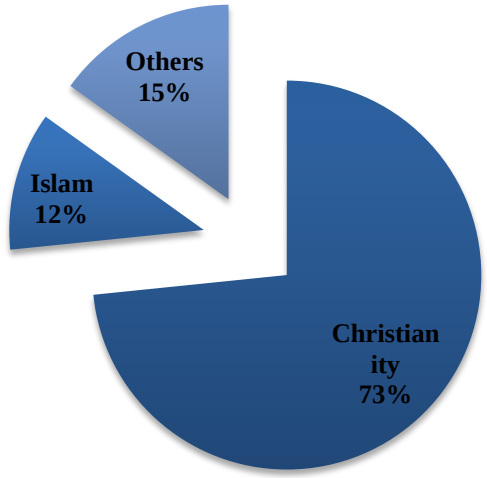

Figure 4.3: Exploded pie chart showing the patients by religion

Table 4.5: Distribution of patients by educational status (n = 139)

S/No	Educational status	Frequency	Percentage (%)
1.	No formal education	9	6.5
2.	Primary	13	9.3
3.	Secondary	70	50.4
4.	Tertiary	47	33.8
	Total	139	100

Source: Patients' Health Records, 2015 – 2019

Table 4.5 above shows that 9 (6.5%) out of the 139 patients used for the study had no formal education, 13 (9.3%) had only primary education, while 70 (50.4%) stopped at the secondary level, and 47 (33.8%) had been through tertiary institutions.

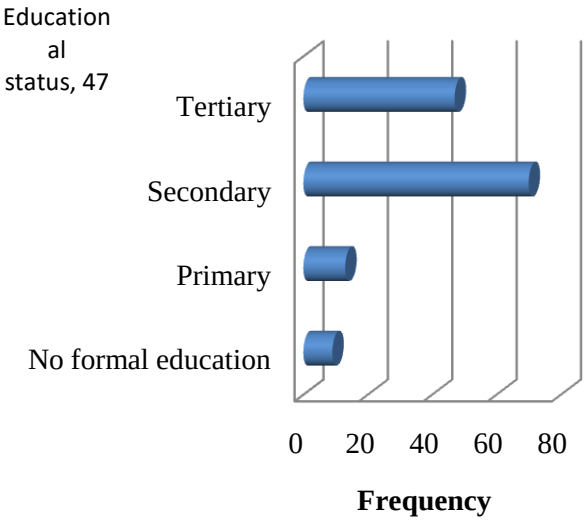

Figure 4.4: Cylindrical bar chart showing the patients by educational status

Table 4.6: Distribution of patients by occupation

S/No	Occupation	Frequency	Percentage (%)
1.	Student	39	28.1
2.	Civil/public servant	7	5.0
3.	Business	21	15.1
4.	Artisan	16	11.5
5.	Unemployed	56	40.3
	Total	139	100

Source: Patients' Health Records, 2015-2019.

Table 4.6 above shows that out of the 139 patients used for the study, 39 (28.1%) were students, 7 (5.0%) were civil or public servants, while 21 (15.1%) were business men and/or women, 16 (11.5%) were artisans, and 56 (40.3%) were unemployed.

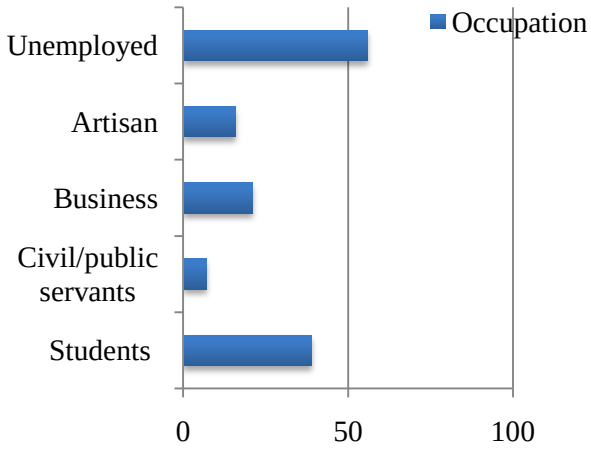

Figure 4.5: Bar chart showing the patients by occupation

Answering of research questions

Research one: What is the prevalence of relapse among substance abuse patients in Federal Neuropsychiatric Hospital, Calabar between 2015 to 2019?

Table 4.7: Prevalence of relapse among substance abuse patients between 2015 and 2019 (n=139)

Year	Relapse status of patients				Total	
	Relapsed Patients		Non relapsed patients			
	n	%	n	%	n	%
2015	2	1.4	29	20.9	31	22.3
2016	10	7.2	22	15.8	32	23.0
2017	7	5.0	15	10.8	22	15.8
2018	9	6.5	29	20.9	38	27.4
2019	4	2.9	12	8.6	16	11.5
Total	32	23.0	107	77.0	139	100

Source: Patients' Health Records, 2015 – 2019.

Table 4.7 above presents the prevalence of relapse among substance abuse patients used for the study. According to the Table, out of the 31 (22.3%) patients admitted in 2015, 2 (1.4%) had relapse while 29 (20.9%) were non relapsed patients. 10 (7.2%) out of the 32 (23.0%) patients admitted in 2016 had relapse while 22 (15.8%) did not. 7 (5.0%) out of the 22 (15.8%) patients admitted in 2017 had relapse while 15 (10.8%) did not. Also, 9 (6.5%) out of the 38 (27.4%) patients admitted in 2018 had relapse while 29 (20.9%) did not. And, 4 (2.9%) out of the 16 (11.5%) substance abused patients admitted in 2019 had relapse while 12 (8.6%) did not. However, within the period under study, the Table reveals that out of the 139 patients used for the study, 32 (23.0%) had relapse while 107 (77.0%) were non-relapsed patients. Hence, the prevalence of relapse among substance abuse patients in the Hospital within the period under study is 23.0% indicating that in every 100 substance abused patients admitted into the Hospital within this period, 23 experienced relapse.

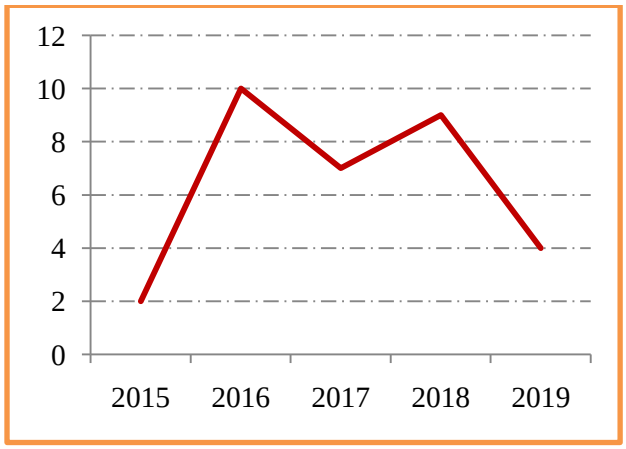

Figure 4.6: Line chart showing the trend of relapse among substance abused patients in the Hospital between 2015 to 2019

The above chart reveals that the prevalence of relapse was least in 2015 and highest in 2016.

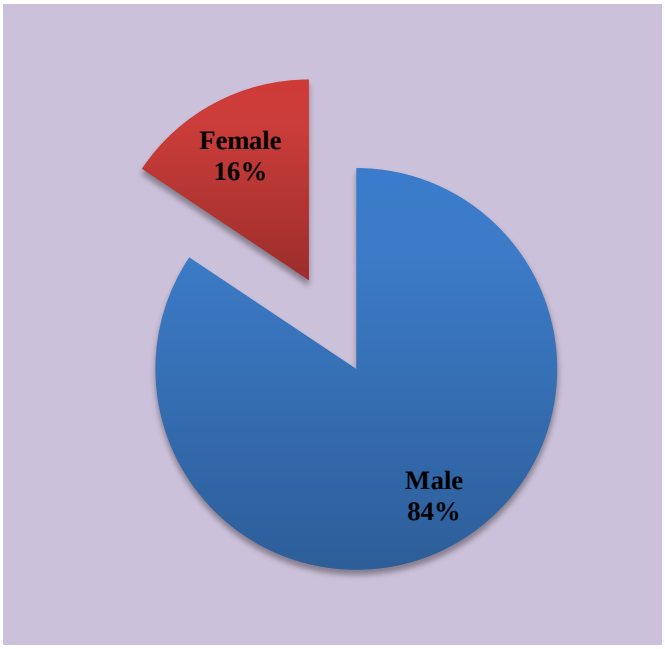

Figure 4.7: Pie chart showing the prevalence of relapse by sex

Figure 4.7 shows that most of the relapsed patients were male while female were the least.

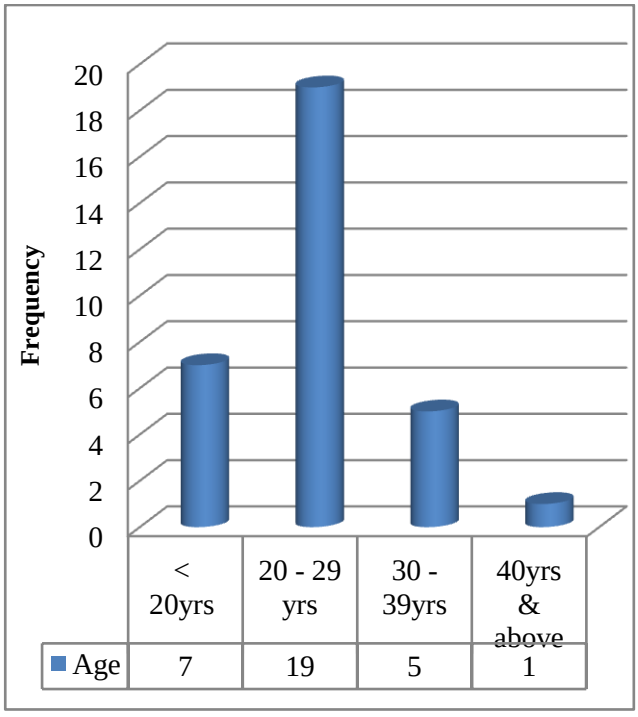

Figure 4.8: Cylindrical bar chart showing the prevalence of relapse by age

The cylindrical bar charts above shows that relapse occur mostly among patients within the age category 20 – 29 years, while the least occurrence was among patients who were 40 years and more.

Table 4.8: Distribution of patients by No. of times re-admitted (n = 32)

S/No	No. of times re-admitted	Frequency	Percentage (%)
1.	1 time	12	37.5
2.	2 – 3 times	16	50.0
3.	4 times & above	4	12.5
	Total	32	100

Source: Patients' Health Records, 2015-2019.

Table 4.8 above shows that among the 32 relapsed patients, 12 (37.5%) were re-admitted in the Hospital only once, while 16 (50.0%) were re-admitted for 2-3 times, and 4 (12.5%) were re-admitted for 4 times and above.

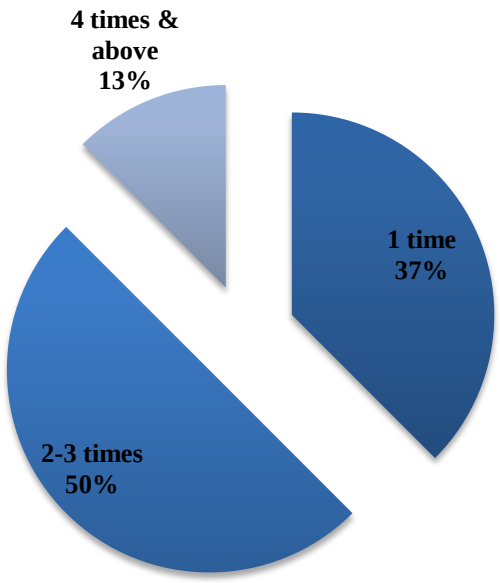

Figure 4.9: Exploded pie chart showing the no. of times patients were re-admitted

Research question 2: What are the demographic determinants of relapse among substance abused patients in Federal Neuropsychiatric Hospital, Calabar between 2015 and 2019?

Table 4.8: Demographic determinants of relapse among patients (n = 139)

Socio- demographic characteristics	Relapse status of patients			X^2	*P-value*	Decision
	Relapsed patients	Non relapsed patients	Row Total			
Sex:						
Male	27	69	96			
Female	5	38	43	4.57**	*<0.05*	significant
Column Total	32	107	139			
Age (yrs)						
< 20	7	38	45			
20 – 29	19	33	52			
30 – 39	5	24	29	9.04**	*<0.05*	Significant
40 & above	1	12	13			
Column Total	32	107	139			
Marital status						
Married	0	10	10			
Single	24	41	65			
Divorced	2	24	26			
Separated	1	4	5	14.68**	*<0.05*	significant
Widow	5	28	33			
Column Total	32	107	139			
Religion						
Christianity	26	76	102			
Islam	1	15	16			Not
Others	5	16	21	2.92**	>0.05	Significant
Column Total	32	107	139			
Educational status						
No formal education	4	5	9			
Primary	9	4	13			
Secondary	17	53	70	27.22	*<0.05*	Significant
Tertiary	2	45	47			
Column Total	32	107	139			
Occupation						
Student	3	36	39			
Civil/Public servant	1	6	7			
Business	3	18	21			
Artisan	5	11	16	12.06**	*<0.05*	Significant
Unemployed	20	36	56			
Column Total	32	107	139			

**Significant at 0.05

Table 4.8 above presents the demographic determinants of relapse among substance abuse patients admitted in the Hospital within the period under study. According to the Table, among the six (6) socio-demographic characteristics of the patients associated with the patients' relapsed status, five (5) significantly influence relapse among the patients. These include; sex, age, marital status, educational status, and occupation. Hence, relapse among substance abused patients in the Hospital is significantly associated with sex of the patient, age, marital status, educational level, and occupation.

V. DISCUSSION OF FINDINGS

This study was conducted to assess the prevalence of relapse among substance abuse patients in Federal Neuropsychiatric Hospital, Calabar between 2015 to 2019. The result of this study is discussed in consonance with the research objectives as presented below:

Prevalence of relapse among substance abused patients in Federal Psychiatric Hospital between 2015 to 2019

Findings from the present study revealed that within the period under study the prevalence of relapse was 23% (n=32) indicating that in every 100 patients admitted in the hospital, 23 experienced relapse and the year with the highest occurrence of relapse was 2016. Among these patients majority were male, between 20 – 29 years of age and has been re-admitted in the hospital for 2- 3 times. These findings agree with Fikreyesus et al (2016) who reported a prevalence of 24.6% among psychotic patients in Southwest Ethiopia. These authors reported that the prevalence of relapse was higher among the male participants and among patients within the age group of 25 – 34 years which is almost similar to that of the present study. On the contrary Okonkwo et al (2020) reported a high (51.3%) prevalence rate of relapse among substance abuse patients in Lagos state. This report disagrees with that of the present study where the prevalence rate of relapse was 32 percent.

Demographic determinants of relapse among substance abuse patients in Federal Neuropsychiatric Hospital, Calabar

The demographic factors found to have a significant influence on relapse in the hospital include sex, age, marital status, educational level, and occupation. According to the findings, relapse was more likely to occur among male patients compared to female patients, and younger patients were more likely to experience relapse than patients who are advance in age. Similarly, single patients, patients with secondary level of education, and patients who are unemployed had the highest likelihood of relapse compared to other. These findings agree with Okonkwo et al (2020) who reported that a strong positive and significant association between age, level of education and family history of substance use and relapse. According to these authors, participants who were younger were more likely to experience relapse. On the contrary, Sampson et al (2017) reported no significant relationship between the age and relapse among substance abuse patients in Neuropsychiatric Hospital, Port Harcourt. This disagrees with the present study where age was found to have a significant positive association with relapse.

VI. SUMMARY OF FINDINGS

This study was conducted to determine the prevalence of relapse among patients with substance abuse in Federal Neuropsychiatric Hospital, Calabar between 2015 to 2019. Summary of findings from the study is as follows:

1. Most of the patients were; male, between 20 – 29 years and a mean age of 25.60±9.609 years, single, Christians, had secondary level of education, and were unemployed.
2. Within the period under study, the prevalence of relapse was 23%. The prevalence was highest in 2016, occurred mostly among male and among young patients within the ages of 20 – 29 years.
3. The socio-demographic determinants of relapse include: sex, age, marital status, educational level, and occupation.

VII. CONCLUSION AND RECOMMENDATIONS

Implication of the study

The study revealed that education is one of the significant demographic factors that influence relapse among the patient used for this study. This shows that patients with good academic background rarely experience psychotic relapse. Therefore, there is need for nurses to impart consistent health education to patients and family members in the hospital as majority of the patients only acquire secondary level of education.

VIII. RECOMMENDATIONS

Based on the findings of this study, it is recommended that:

1. Health workers should provide information to and incorporate the patient's family and friends in the management of care as this will aid in home management of the patient's condition, thus preventing relapse.
2. Clinicians and educators should work together to develop appropriate treatments and after-care programs that will address the issue of substance use, relapse and prevention.
3. Government should create employment opportunities for the youth to curb the menace of unemployment which is a significant factor that induce relapse among substance abuse patients.
4. Government and concerned authorities should develop and strengthen community based rehabilitation services as part of mental healthcare services.

Suggestions for further study

The researchers suggest that another study should be conducted in the area and factors apart from demographic factors especially clinical factors associated with relapse should be investigated.

IX. CONCLUSION

Based on findings of the study, it is concluded that the prevalence of relapse among substance abuse patients in Federal Neuropsychiatric Hospital, Calabar between 2015 to 2019 is 32 per cent(n=32) indicating that in every 100 substance abuse patients admitted in the Hospital within these period, 32 experienced relapse. Within this period, the highest occurrence of relapse was recorded in 2016. Also, among these patients, majority were male, aged between 20 – 29 years, and were re-admitted in the Hospital for 2-3 times. The demographic characteristics that significantly associated with relapse within the period under study were; sex, age, marital status, educational level and occupation.

REFERENCES

[1] Annis, H., Sklar, S., and Moser, A. (2016). Gender in relation to relapse crisis situations, coping and outcome among treated alcoholics addictive behviours: (23), 127-131.

[2] Allsop, D., Norberg, M., Copeland, J., and Budney, A. (2011). The cannabis withdrawal scale Development: Patterns and predictors of cannabis withdrawal and distress, drug and Alcohol dependence. 191:123-129.

[3] Allsop, S., Saunders, B., & Philips, M. (2000). The process of relapse in severely dependent male problem drinkers. *Journal of Addiction, 95,* 95-106.

[4] Bain, K. A. (2004). *Chased by the dragon: The experience of relapse in cocaine and heroin users.* Pretoria: University of Pretoria. (MA Dissertation)

[5] Bendtsen, P., Dahlstrom, M., and Bjurulf, P. (2018). Socio demographic gender difference in Patients attending a community base alcohol treatment Centre. Addiction behavior 27:21-33.

[6] Bowen, S., and Witiwitz, K., (2010). Depression, craving and substance use following a randomized Trial of mindfulness based relapse prevention journal of consulting and clinical psychology, 78 (3), 362-74.

[7] Brandt, C. J., & Delport, C. S. L. (2005). Theories of adolescent substance use and abuse. *Professional Journal for Social Work, 41(2),* 163-175.

[8] Breese, G., Sinha, R., and Heiling, M. (2011). Chronic alcohol neuroadaption and stress contributes To susceptibility for alcohol craving and relapse. Pharmacol. Ther.129 (2):149-71.

[9] Brown, S. A., Vik, P. W. & Creamer, V. A. (1989). Characteristics of relapse following adolescent substance abuse treatment. *Addict Behav iour, 14* (3), 291–300.

[10] Brown, S.A., Vik, P.W., Patterson, T.L., Grant, I. & Schuckit, M.A. (1995). Stress, vulnerability and adult alcohol relapse. *Journal of Studies on Alcohol, 56*, 538–545.

[11] Cami, J. & Farrè, M. (2003). Mechanisms of disease: Drug addiction. *New England Journal of Medicine, 34 9* (10), 975-986.

[12] Campos, M. D. (2009). Relapse. In: G. L. Fisher & N. A. Roget (eds), *Encyclopedia of Substance Abuse Prevention, Treatment and Recovery, 2*, 772-775.

[13] Charles, k., and Okley, R (2011). Drugs, society and human behavior. Neuropharmacol 33, 2783-2784(2011).

[14] Chen, K., Sheth, A. J., Elliott, D. K. & Yeager, A. (2004). A prevalence and correlates

[15] of past-year substance use, abuse, and dependents in a suburban community sample of high-school students. *Addictive Behaviours, 29*, 413−423.

[16] Daley, D. C. (1987). Relapse prevention with substance abusers: Clinical issues and myths. *Sosial Work, 45* (2), 38-42.

[17] Dawson, D. A. (2015). Gender difference in the probability of alcohol treatment. Journal of substance Abuse 8:211-225.

[18] Dennis, M., Funk, R., Laudet, A., Scoot, C., and Simeon, R. (2011). Surviving drug addiction: the Effect of treatment and abstinence on mortality. American journal of public health.

[19] Doweiko, H. E. (2006). *Concepts of chemical dependency*. Belmont: Thomson Brooks/Cole.

[20] El-guebaly, N. (2011). Concurrent substance related disorder and mental illness; the north American Experience. World psychiatry; 3(3), 182-187.

[21] Fikreyesus, M., Soboka, M., and Feyissa, G. T. (2016). Psychotic relapse and associated factors among patients attending health services in Southwest Ethiopia: a cross-sectional study. *BMC Psychiatry, 16*: 354. DOI 10.1186/s12888-016-1076-2

[22] FGN BUDGET PROPOSAL, (2016), Budget Office of the Federation, Federal Ministry of Finance, page 3, HEALTH, www.budgetoffice.gov.ng/pdfs/2016pro/HEALTH%20.pdf

[23] Fraser, S. & Moore, D. (2008). Dazzled by unity? Order and chaos in public discourse on illicit drug use. *Social Science and Medicine, 66*, 740-752.

[24] Glenn, S.W., and Parson O. A (2010). Prediction of resumption of drinking in post treatment alcoholics International journals of the addiction, 26,237-254.

[25] Govt of India, author. (2010). Annual report 2009-10. New Delhi: ministry of health and family welfare.

[26] Greenfield, C. A., Polen, M.R., and Dickson, D. M (2006). Gender difference in

[27] prediction of Initiation, Retention and completion in an HMO-based substance abuse treatment program. Journal of substance abuse treatment 23:285-295.

[28] Gregoire, T. K., & Snively, C. A. (2001). The relationship of social support and economic self-sufficiency to substance abuse outcomes in a longterm recovery program for women. *Journal of Drug Education, 31* (3), 221–237.

[29] Habil, H. (2001). *Managing heroin addicts through medical therapy*. Kuala Lumpur: University Malaya Press.

[30] Hall, S., Havassy, B., and Wasserman, D.A.(2011). Effect of commitment to abstinence,

[31] positive Mood, stress and coping on relapse to cocaine use. Journal of consulting and clinical psycho Logy, 59, 526-532.

[32] Hanson, P. (2010). The Joy of Stress: How to make stress work for you, Andrew McWheel publishing.

[33] Hanson, D. (2017). Prevalence, correlates disability and comorbidity of DMS –IV, alcohol abuse and Dependence in United States. Archives of general psychiatry 64(7): 830-42.

[34] Jonathan, S. (2017), *"Imperial Bedlam: Institute of Madness in Southwestern Nigeria", www.books.google.com.ng*. Retrieved *22 January* 2017

[35] Kadden, R.M. (2010). Cognitive and behavaioural therapy for substance dependence: coping skill Training Beh. Health recovery management. University of Chicago. Retrieved 12/3/2015.

[36] Kring, A. M., Davison, G. C., Neale, J. M. & Johnson, S. L. (2007). *Abnormal psychology (10th ed).* New York: John Wiley & Sons.

[37] Larimer, M., Palmer, R. S and Marlatt G.A. (2015). Relapse prevention. An overview of Marlatt cognitive Behavioral model. Alcohol Res health 23 (2): 151-60.

[38] LeikinJ.b., Krantz A.J, Zell-Kanter M, Barkin, R.L, Hryhorczuk D. O. Clinical features and Management of intoxication due to hallucinogenic drugs. med Toxicol Adverse Drug Expert 2017; 5:324-350

[39] Maehira, Y., Chowdhury, E. I., Reza, M., Drahozal, R., Gayen, T. K., Masud, I., Afrin, S., Takamura, N., and Azim, T. (2019). Factors associated with relapse into drug use among male and female attendees of a three-month drug detoxification-rehabilitation programme in Dhaka, Bangladesh: A prospective cohort study. *Harm Reproduction Journal, 10*: 14.

[40] Mahmood, N. M. (1996). *Peranan & penglibatan keluarga dan masyarakat dalam pencegahan pPenagihan berulang*. Perkama: Persatuan Kaunseling Malaysia.

[41] Mahmood, N. M., Mohd, S. C-Din., Lasimon, M., Muhamad, D. K. & Rusli, A. (1999).

[42] *Penagihan dadah dan residivisme: Aspek-aspek psikososial dan persekitaran.* Kedah: Pusat Penyelidikan dan Perundingan, Universiti Utara Malaysia.

[43] McCrady, B. S. (2001). Alcohol use disorders. In: D. H. Barlow, (ed), *Clinical handbook of psychological disorders* (3rd ed). New York: Guilford Press.

[44] McCoy, C. B. & Lai, S. (1997). No pain, no gain, establishing the Kunming, China, Drug Rehabilitation Centre. *Journal of Drug Issues*, 27 (1), 73-85.

[45] Miller, M. W. (1992). The effectiveness of treatment for substance abuse: Reasons for optimism. *Journal of Substance Abuse*, *9*, 93-102.

[46] Miller, N. S., Ninonuevo, F., Hoffmann, N. G., & Astrachan, B. M. (1999). Prediction of treatment outcomes: lifetime depression versus the continuum of care. *American Journal on Addictions, 8*, 243–253.

[47] Mohd, T. & Mohd, K. (2000). *Pola-pola komunikasi kekeluargaan: Kajian di kalangan Keluarga Penagih dan Bukan Penagih di Negeri Kedah.* Penyelidikan Sekolah Pembangunan Sosial.

[48] Mokhtar, M. (1997). *Faktor-Faktor k egagalan m embebaskan d iri d aripada d adah*. Unpublished Master's Thesis: Universiti Putra Malaysia.

[49] Mokri, A. (2002). A brief overview of the status of drug abuse in Iran. *Archives of Iranian Medicine, 5* (3), 184–190.

[50] Moos, R. (2007). Theory-based processes that promote remission of substance use disorders. *Clinical Psychology Review, 27*, 537-551.

[51] Murmane, K.S and Howell, L.L (2011). Neuroimaging and drug taking in primates. Psychopharmacology 216 (2): 153-71.

[52] National Treasury (2011). *Confronting youth unemployment: policy options for South Africa*. Pretoria: National Treasury.

[53] National Institute on Drug Abuse (2006). *Drug addiction.* Retrieved from http://www. drugabuse.gov/DirReports/ DirRep904/DirectorReport9.html

[54] National Institute on Drug Abuse (2015). Understanding drug use and addiction. Retrieved from http://www.drugabuse.gov.

[55] O'Brien, C. (2006). Drug addiction and drug abuse. In L. L. Brunton, J. S. Lazo, & K. L.

[56] Parker (Ed.), *Goodman and Gilman ' s The Pharmacological Basis of Therapeutics* (11th ed., pp. 607-627). New York: McGraw-Hill.

[57] O'Connell, D. F. & Bevvino, D. (2007). *Managing your recovery from addiction: a guide for executives, senior managers, and other professionals.* New York: Haworth Press.

[58] Okonkwo, C. C., Onyedibe, M. C., Okeke, N. A., and Agoha, B. C. (2020). Prevalence and socio-demographic factors for relapse among patients with substance use disorder in Lagos, Southwest Nigeria. *Nigerian Journal of Psychological Research, 16* (1): 30-39.

[59] Ramo, D. E. and Brown, S. A. (2011). Classes of Substance Abuse Relapse Situations: A Comparison of Adolescents and Adults. Psychol Addict Behav. 2008; 22(3): 372-379. doi: 10.1037/0893-164X.22.3.372, PMCID: PMC3031179, NIHMSID: NIHMS265761, PMID: 18778130

[60] Rasmussen, S. (2000). *Addiction t reatment: Theory and p ractice*. Beverly Hills, California: Sage Publication, Inc.

[61] Reid, G., Kamarulza*Development Research, 7* (11): 11684-16989.

[62] Schuckman, A. & Sran, S. K. (2007). Malaysia and harm reduction: The Challenges and responses. *International Journal of Drug Policy, 18* (2), 136-140.

[63] Rubin, A., Stout, R.L., and Longabaugh, R. (2017). Gender difference in relapse situations. Addiction 91(suppl) s111-s120.

[64] Sadock, B.J. Sadock V.A. Caplan and Sadock's comprehensive textbook of psychiatry. 8th edition. Lippincott Williamand Wilkins publsishers; (2010) pp942-949.

[65] Sampson, B. N., Frank, M. D., Nkamare, M. B., Robinson-Bassey, G. C., and Wokne-Eze, L. (2017). Factors influencing relapse among substance abused patients attending Neuropsychiatric Hospital, Rumuigbo, Port Harcourt, Nigeria. *International Journal of*

[66] it, M. A. (2006). *Drug and alcohol abuse: a clinical guide to diagnosis and treatment* (6th ed). New York: Springer Science & Business Media.

[67] Sharma, A. K., Suneet K., Ukpadhyaya, S.,Pankaj B. and Nijhawan and Sharma, D. (2012). Factors Affecting relapse in substance abuse.

[68] Sinha R. (2011). How does stress increase risk of drug abuse and relapse. Psychopharmacology (Berlin) 2011; 158(4):343-359.

[69] Toneatto, A., Sobell, L.C., and Sobell, M.B. (2017). Gender issues in the treatment of abuser of Alcohol, Nicotine and other drugs. Journal of substance abuse, (4) 209-218.

[70] Vanden, M.C., Spisker, S., Smith, A.B., and De 'veries, T.J. (2010). Prefrontal cortex placidity. Mechanism in drug seeking and relapse "neurosisbiobehavior" Rev 35(2); 276-84.

[71] Vannicelli, M.,and Nah, L. (2018). Effect ofsex bias in on women studies on alcoholism, clinical and Experimental research, 8, 334-336.

[72] Wadhwa, S. (2009). Relapse. In: G. L. Fisher & N. A. Roget (eds), Relapse. *Encyclopedia of Substance Abuse Prevention, Treatment, and Recovery, 2*, 772-778.

[73] Wellish, J. & Prendergast, M. L. (1995). Towards a drug abuse treatment system. *Journal of Drug Issues, 25* (24), 759-782.

[74] Woerle, S., Roeber, J., and Landen, M. (2017). Prevalence of alcohol dependence among excessive drinkers in new mexico. Alcohol clinExp Res; 31(2): 293-8.

[75] Yahya, D. & Mahmood, N. M. (2002). *Penagihan d adah & p erlakuan j enayah: Pengaruh f aktor p sikososial dan i nstitusi. Jurnal psikologi Malaysia. Julai 2002. Bil.16: ISSN 0127-8029.*

[76] Yunos, P. M. (1996). *Dilema, pengalaman dan prospek bekas penagih dadah. Kertas Kerja Seminar Dari Institusi Pemulihan Ke Pangkuan Masyarakat, Anjuran Yayasan Pencegahan Jenayah Malaysia*. Hotel Crown Princess: Ogos.