

Systematic and Statistical Analysis of Public Knowledge of Marijuana Addiction and Psychosis Mental Health Outcome Youths in Calabar

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Abstract

Nigeria ranks among the highest consumers of marijuana global and the youths are among the highest demographic of consumers. But there is dearth of evidence that people know about the dangers inherent in being addicted to marijuana. This study examined public knowledge of marijuana addiction and risk of psychosis mental health outcome among youths in Calabar. The survey method through the distribution of self-administered semi structured was used to elicit data from a sample of 384, selected from Calabar, Cross River State, Nigeria using the stratified, purposive and random sampling technique. Data collected was analyzed using descriptive statistics using such as frequency distribution, percentages, figures and inferential statistics in the form of independent T-test. Results revealed that there is public knowledge of the marijuana addiction and psychotic. There is need for the government and its Drug enforcement agency to formulate drastic laws and put in place punitive measures that will curb the distribution, sale and consumption of marijuana.

Keywords: public knowledge, marijuana addiction, psychosis, mental health outcome.

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1. Introduction

Globally marijuana, medically known as cannabis is the most widely consumed psychoactive substance (Yu, Chen, Chen & Yan, 2020). Derived from the cannabis plant which contains 483 known compounds, collectively known as Phytocannabinoids (Meyer & Quenzer, 2019). According to the United Nations Office on Drugs and Crime (2019), an estimated 3.8 percent of the global population aged between 16-64 have used marijuana in the past year with an increase of 30 percent in the last two decades. The United States and Canada have the highest prevalence rate with more than 43 million Americans having used marijuana in 2018 alone (UNODC, 2019). In Canada, more than half the population aged 15 and above have used marijuana at least once (Health Canada, 2019). This figure includes the 15 percent that uses it for medical purposes (Leyton, 2019). Europe has the highest youth population who take marijuana daily with the Netherlands leading the way (Hopfer, 2014).

Africa is the second leading producer of marijuana with countries such as Nigeria, Morocco, Sudan, South Africa, Congo and Ghana the highest producers (UNODC, 2019). Between the period of 1995 and 2005, 19 nations in Africa reported cultivating and producing cannabis worth over 10,500 metric tons, representing 25 percent of global production (UNODC, 2007). UNODC (2007) estimated that more than 38 million African adults consume marijuana each year, this represents 7.7 percent to the continent's total population. In Nigeria, marijuana is the most consumed

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psychoactive substance, with an estimated 10.6 million adults using in 2017 (UNODC, 2018). The extent of marijuana consumption in Nigeria is comparable to all the 2016 estimated marijuana use in West and Central Africa (UNODC, 2018). Marijuana addiction is recorded to be 7 times higher among adult male than women with the 2017 consumption rate estimated to be 18.8 percent among adult male and 2.6 among adult women (UNODC, 2018). The average age of marijuana use initiation in Nigeria is 19 with the average daily spending on purchasing marijuana pegged at 363 Nigerian Naira (UNODC, 2018).

Individual who use marijuana do it for different reasons, among which are relaxation, stress relief, improve appetite, better sleep, and better self-confidence (Reddon, Fast, DeBeck, Werb, Hayashi, Woo & Milloy, 2019; Bahji & Stephenson, 2019). However, marijuana holds a lot of complexities. There is continuous debate among medical practitioners and social scientist as to if marijuana is a useful and harmless drug that should be legalized since it holds great potentials as medicine for treatment of certain ailment (Trezza & Campolongo, 2013; Stea, 2019), or a psychoactive substance with great possibility for harmful addiction and mental health problems such as substance use disorders, schizophrenia and related psychotic disorders (Hall, 2014; Volkow, Baler, Compton & Weiss, 2014; Bechtold, Simpson, White & Pardini, 2015; Shover & Humphreys, 2019).

Marijuana contains more than 60 cannabidiol compounds among the most active is the Tetrahydrocannabinol (THC). Lucas (2017) maintain that THC impact on the motor neuron of the body, which has concomitant effect the flexibility of the human body, visual and the spatial process. Marijuana causes memory impairment, causing short and verbal memory impairment (Sagar, Dahlgren, Gönenç, Racine, Dreman & Gruber, 2015). In Nigeria, there is little evidence of public knowledge about the mental health effect of marijuana addiction (Johnson, Akpanekpo, Okonna, Adeboye & Udoh, 2017; Asuni, 1964; Tiku, Isokon, & Enamhe, 2019). Criminals and gang members believe it is a powerful aphrodisiac that increase courage and prowess to carry out their activities. Prostitute and those who patronize them believed it has powerful aphrodisiac that helps them perform better. Long distance truck and taxi drivers believe in its powers to keep them awake and alert on the road. students and youths take marijuana during festive periods with the hope of more myth and enjoyment (Asuni, 1964; Bekomsom, Ogar, Akintola, Dike, Egbe, Ibiro, & Ayodele, 2021; Archibong, Akomaye, Tangban, Ojong-Ejoh, & Abang, 2021). Asuni (1964) argued that it is difficult to ascertain people's knowledge about the effect of marijuana addiction on mental health, he went on to argue evidence that exist are of people learning from the pages of newspapers and magazines. There is even a section of the Nigerian public who call for it to be legalized. It is also as a result of these that this study is seeks to examine public knowledge and awareness of effect of marijuana addiction on mental health in Calabar, Cross River State, Nigeria.

1.1. Marijuana, what is it made of?

Marijuana or cannabis is the name for the various end product of the hemp plant called cannabis sativa. It has been given other slang names such as weed, Mary jane, pot, grass, reefer, ganja etc., According to the climes (NIDA, 2015). It is a complex plant that is made up of more than 480 chemical compounds (ElSohly, Mehmedic, Foster, Gon, Chandra & Church, 2016). Historically, marijuana use origin could be traced to Central and Northeastern Asia over 5000 years ago and it is currently used worldwide as a recreational or medical drug today (Russo, 2002). It is usually used for smoking, mixed in food or liquid substance for drinking (Russo, 2002). Smokers use it in hand rolled cigarettes known as joint, others use pipes called bong (NIDA, 2015). Evidence reveals that the most psychotropic substance in marijuana that is responsible for its intoxicating effect is the delta -9 Tetrahydrocannabinol (THC) (Elsohly et al, 2016). The THC is responsible for the harmful effect from marijuana more than one hundred other compounds chemically related to the THC called cannabidiols have been found in marijuana (Pacher, Bátkai & Kunos, 2006). Cannabinoids exerts their effect through the most recently discovered endocannabinoid system.

1.2. Marijuana in Nigeria: A problem or not?

The cannabis industry in Nigeria is fairly new but is a thriving industry. The country is ranked eight highest producers of marijuana in the world (UNODC, 2019). It is widely grown in states such as Ondo, Edo, Delta, Ogun, Oyo and Osun. Osun state holds the record for the highest cultivators and exporters of marijuana (Akingboye, 2019). Local evidence shows that it was first introduced into Nigeria after the second world war by soldiers returning home from the middle

and far east. The main reason for its cultivation in Nigeria is for its use as an aphrodisiac where it is either smoked, chewed or brewed (Asuni, 1964). Some addicts soaked it inside locally made gin popularly known as “monkey tail”, some use it as spice for their meals, few put it in hot water as herbal tea, some even chew the seed and plant, but majority smoke the dried plant (Akingboye, 2019). The global cannabis report (2019) rates Nigeria as the highest consumers of cannabis with 19.4 percent of the population aged 15 and above having used marijuana once in their life time. Another report by business day newspaper estimates that the country spends more than 15 billion on marijuana annually, the report also holds that at least 12 percent of its population use it monthly (Ojewale, 2019; Ifere, Tangban, & Okoi, 2021).

Despite the rate of consumption, marijuana consumption, sale, purchase or cultivation is illegal in Nigeria, various legislation has been introduced in the country on marijuana. The country under the British rule introduced the Dangerous Drug Acts, this was followed by the 1966 Indian Hemp Decree which was Amended in 1975 and 1984, within minor amendments (Kalunta-Crumpton, 2015; Alemuka, 1993). The Indian hemp act states that any part of the marijuana plant is illegal to use, sell or purchase and it includes the mild cannabidiol receptors CBD, which does not contain much THC. The Indian hemp act states that anyone caught in possession of marijuana has committed an offense that is punishable with a prison term of not less than four years (Alemika, 2009). The law also states that anyone caught in possession of any equipment associated with marijuana is punishable with a prison term of not less than five years. The law also affects those who cultivate, sell, export, purchase substances that is related to marijuana. Despite these laws, marijuana is grown throughout Nigeria. In fact, it is the favorite crop of the farmers because of the economic benefit accruable from it.

The sale, distribution and transportation of marijuana connects different states. It has become a common sight to see smokers especially the youths puffing away at public playground, motor parks, and garages. Dealers and smokers of marijuana are usually found in shanties or low-class neighborhood, those on the fringes of society. But it's also consumed by people of the middle and higher class. In 2011 the United Nations Office on Drug and Crime report that more than 14.5 percent of the country's population take marijuana and this figure is the highest in the world (UNODC, 2012). This report spurred the Nigerian government and its drug enforcement agency the NDLEA to launch various programmes that is aimed at curbing the sale, cultivation and distribution of Marijuana in the country. Despite the effort of NDLEA, marijuana is still a common feature and widely used psychoactive feature and there are even calls for it to be legalized.

2. Empirical Evidence of Marijuana and Mental Health

Studies have shown that marijuana addiction has a negative impact on mental health. Hall and Solowij, (1998) research findings revealed that long term marijuana use is associated with the impairment of selective attention. Arseneault, Cannon, Witton and Murray (2004) examined the correlation between cannabis and the risk of developing schizophrenia and other psychiatric illness. Finding revealed that cannabis addiction increases in two folds, chances of developing schizophrenia. Guttmanova, Kosterman, White, Bailey, Lee, Epstein, Jones and Hawkins (2017) assessed that the impact of regular marijuana use and mental health outcome. Finding revealed that regular cannabis use by youths relates to substance use disorder. Sideli, Quigley, La Cascia and Murray (2020) review of literature found that heavy use of marijuana increases the risk of developing psychosis. The review of 68 articles by Memedovich, Dowsett, Spackman, Noseworthy and Clement (2018) revealed that marijuana is a risk factor health disorder, brain change, and cognitive outcome. A review by Paruk and Burns (2015) tried to ascertain the relationship between marijuana exposure and mental illness in adolescents drawing from a review of studies, the study concludes that marijuana use can be considered a risk factor for mental illnesses in later life. Hanna, Perez and Ghose (2017) review on cannabis and its association with psychiatric disorder found a substantial relationship between cannabis and increase risk of psychosis disorder. John (2001) Finding from reevaluating the effect of marijuana use among the general population and the vulnerable individuals revealed that a proportion of marijuana use reported short lived adverse effect including psychotic illness. The study also reported that people who suffer from schizophrenia and other mental illness report relapse for becoming addicted to marijuana.

3. Methods

3.1. Study Setting

Calabar is the capital of Cross River State located in southern part of Nigeria. The city lay between two great rivers. The great Kwa river and the Calabar River. Calabar covers an area of about 406 sq. kilo meter(Ada, Angioha, Tangban, Abang, & Akam, 2021). For administrative purposes, the city is divided into Calabar South and Calabar Municipality (Awunghe Ekuri, Andrew, Tangban, Okorie, Omono, Ochiche, 2021). As the administrative capital of Cross River State, the city attracts a high population of people migrating from other part of the state and country for the economic activity or the other. The city holds a high population of civil servants, business men and women. It is also home for local fishermen and farmers. The last population census of 2006 pegs the population of Calabar at 371,022 (NPC, 2006). Calabar is home for a youthful population according to NPC 2006, the youths cover 63 percent of Calabar population.

3.2. Study Design

The survey research method was adopted for this study. The method allows a researcher to elicit information from a subset of a population about their opinion, characteristics, attitudes and experiences on a particular issue by posing a series of questions. The method enables a researcher to learn about an issue that affects a particular population by surveying a sample of it (Akah, & Enamhe, 2021; Ukwaiyi, Angioha & Aniah, 2019; Enamhe, Tangban, Omang, & Ojong-Ejoh, 2021; Ibiam, Anam, Ojong-Ejoh, Enamhe, Igwe-Okomiso & Ejoh, 2022; Enamhe & Okang, 2019; Isokon, Obeten, & Tangban, 2017). For this study, the quantitative method was adopted through the distribution of self-administered semi structured questionnaires.

3.3. Sampling

The sample size for the study was 384 samples derived from a population of 371,022 from Calabar, Cross River State, Nigeria. The sample size was arrived at using the Survey Monkey Sample Determinant Technique at 95 percent confidence level and 5 percent margin of error. The stratified, purposive and simple random sampling technique was adopted in selecting the needed sample from the study area. Calabar was stratified into two strata according to the local government area that makes up Calabar. The convenience sampling was then used in selecting four areas each from each local government area. The areas selected are; Calabar South; Watts, Anantigha, Ekpo Abasi, Hawkins and for Municipality; Atimbo, Eta Agba, Marian and Edim Otop. These areas were selected because the presence of hospitality establishment and hotspots and because of the high rate of youths in the area. From these areas, 48 respondents were randomly selected.

3.4. Instrument Reliability

The instruments were trial tested on 10 respondents that are not part of the original sample and suspected to Cronbach Alpha Reliability procedure. The reliability scale revealed reliability co-efficiency of 0.75 and this instrument was adjudged reliable to be used for the study. Nenty and Umoinyang (2004) maintain that any reliability coefficients ranging from 0.59 and above for a research instrument is tenable and can yield reliable result.

3.5. Ethical Consideration

Due ethical consideration was considered during this research. Permission was collected from both Calabar South and Calabar Municipality Council ethical committee for this study to be carried out. The content of the instruments was clearly explained to the respondents and the confidentiality of their response was assured.

3.6. Method of Data Analysis

Data collected from the field was analyzed with the aid of the Statistical Package for Social Science (SPSS), version 20. Descriptive statistics such as frequency distribution, percentage, and figure were used to analyzed the result from the instrument. Inferential statistics (independent T-test) was used to analyze differences in public knowledge of marijuana addiction. From the 384 instruments distributed only 331 of the instruments was retained properly full without missing value or mutilation and this was used for analysis. The moderate return was due to the characteristics of the respondents, the terrain where the study was carried out.

4. Findings

4.1. Presentation of Result

Frequency and per centages were used to first analyse the questions on the research instrument and reported in Table 1 and figure 1 and 2. This was later subjected to parametric statistics and reported in table 2. From the collected data, 145 (43.8%) have had experience smoking marijuana, 186 (56.2%) have not. 217 (65.6%) agreed that they know where to buy and those who deal on marijuana, while 114 (34.4%) do not. From the response gathered and collated, 289 (87.3%) of the respondents agreed that most of the youths in the area use marijuana, while 42 (12.7%) disagreed that its not true. Also, most respondents 210 (63.5%), answered in the affirmative that it is easy to purchase marijuana and 121 (36.5%) argued that it is not easy to purchase marijuana in their area. From the response also, most of the respondents 307 (92.7%), agreed that most people use marijuana for recreational purposes, while 24 (7.3%) disagreed. Most respondents 256 (77.3%), also maintain that after taking marijuana, individuals start behaving abnormal, while 85 (25.7%) disagreed. 271 (63.7%) respondents also agreed that they no people who have ended up in the hospital from taking marijuana, while 60 (18.1%) point out that they don't know any. Finally, the whole 331 (100%) respondents maintain that people are aware of the dangers of becoming addicted to marijuana..

Table 1. Responses on Public Knowledge of Marijuana Addiction

S/N	Statement	Yes	No	
1	I have use marijuana before	145 (43.8%)	186 (56.2%)	
2	I know people who sell and distributes marijuana	217 (65.6%)	114 (34.4%)	
	statement	Very true	True	Not true
3	Most youths in the area use marijuana	187 (56.5%)	102 (30.8%)	42 (12.7%)
4	It is easy to get marijuana in this area	180 (54.4%)	30 (9.1%)	121 (36.5%)
5	People take marijuana just for recreational purposes	156 (47.1%)	151 (45.6%)	24 (7.3%)
6	Most people begin to behave abnormal after taking marijuana	161 (48.6%)	95 (28.7%)	85 (25.7%)
7	I know people who have ended up in the hospital from taking marijuana	211 (63.7%)	60 (18.1%)	60 (18.1%)
8	People know the dangers and mental health effect of becoming addicted to marijuana	241 (72.8%)	90 (27.2%)	-

Source: Field work. 2020

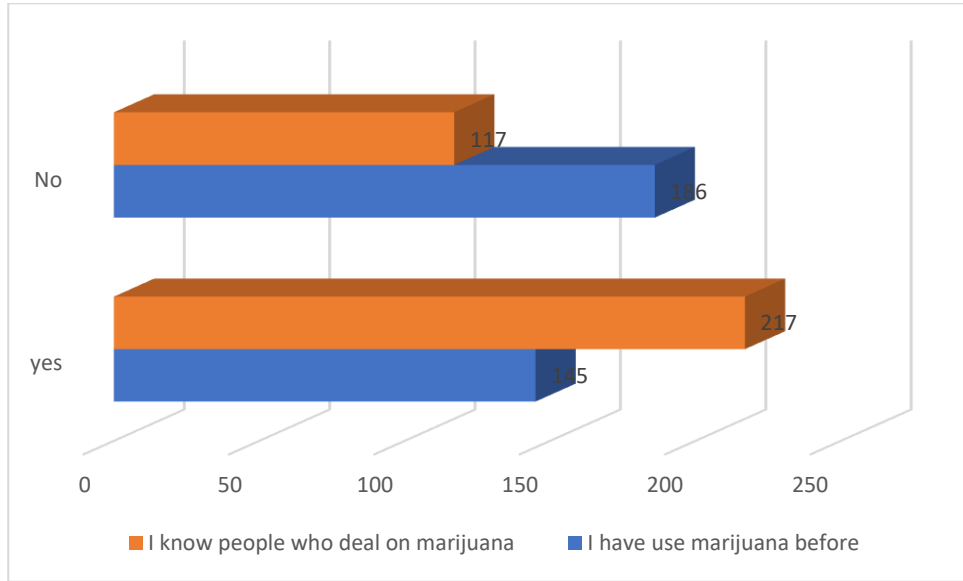


Figure 1. Responses on public Knowledge of Marijuana Addiction (Ques. 1 &2)

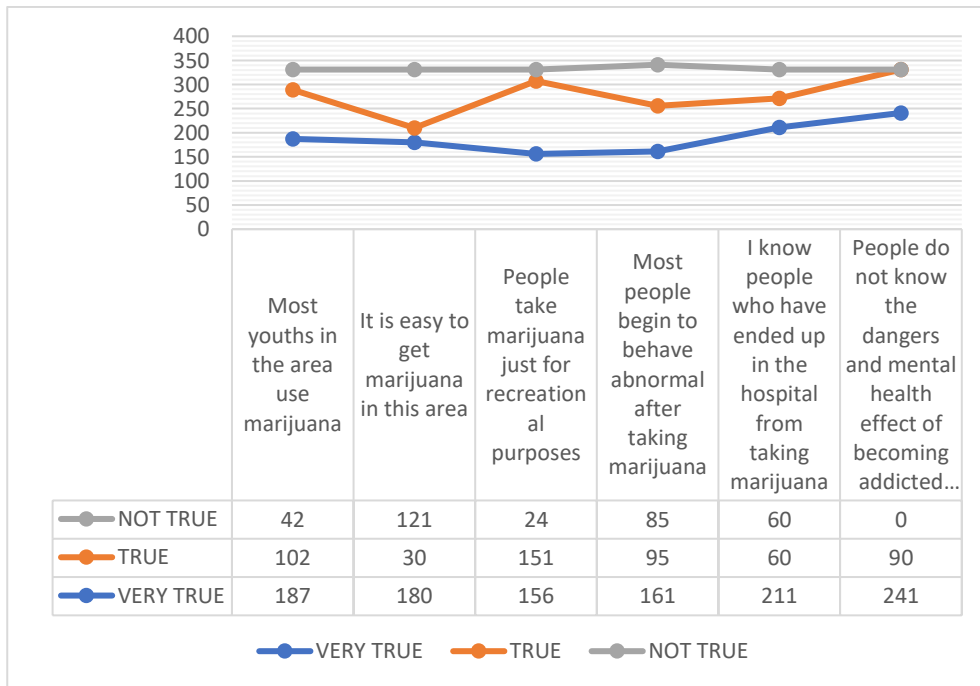


Figure 2. Responses on public Knowledge of Marijuana Addiction (Ques. 3-8)

4.2. Analysis of Data

Independent t-test statistical tool was used to check public knowledge of the mental health effect of marijuana addiction. The testing was done at 0.05 level of significance and the result is presented in Table 4.

Table 4. Independent t-test for public knowledge of marijuana addiction and mental health outcome

Grouping variable	N	Df	Mean	SD	t-value	Sig.
Public Knowledge	204	329	14.11	6.10	3.57	.000
No Public Knowledge	127		11.93	4.00		

* significant at 0.05; df = 329; critical t-value 1.96

Result from the analysis revealed that public knowledge of psychosis mental health effect of marijuana addiction significantly differs from lack of knowledge of psychosis mental health effect of marijuana addiction. This is so because the calculated t-value of (329) = 3.57 was higher than the critical t-value of 1.96 at $p < .05$. This result implies that, there is public knowledge of psychosis mental health effect of marijuana addiction in Calabar.

Also, the analysis revealed that 204 of the respondents representing 61.6% have knowledge of the dangers of becoming addicted to marijuana, while 127 of the respondents representing 38.3% do not know the dangers of becoming addicted to marijuana. Averagely, people who know that marijuana addiction results in mental health issues have better mean value ($M = 14.11$, $SD = 6.10$) which is an indication of public knowledge. However, the effect size was moderate revealing that this finding was substantial in real terms. We can conclude that there is moderate knowledge of the psychosis mental health effect of marijuana addiction in Calabar, Cross River State, Nigeria

4.3. Discussion of Findings

Data gathered from the field, revealed that, out of 379 respondents, 202 (61.0%) were male while only 129 (39.0%) were female. Data also revealed that 149(45.0%) were aged between 26 and 40 years; 75 (22.7%) were aged 25 years and below; 71 (21.5%) respondents were aged 41 and 55 years while 36 (10.9%) were 56 years and above. Result also revealed that 164 (49.5%) respondents were married, 142 (42.9%) respondents were single and 25 (7.6%) were either separated, divorced, widowed or a widower.

Data collected from the field also revealed that 145 representing 43.8 per cent of the respondents have used marijuana before. If the sample for the study is a representative, this implies that more than 40 per cent of the total population of Calabar aged 15 and above have used marijuana at least once in their life time. This is quite alarming and is supported by the UNODC (2018) report that states that marijuana is the most used psychoactive substance apart from tobacco and alcohol in Nigeria and an estimated 10.6 million Nigerians between the ages of 15 and 58 have used marijuana in the past year. The findings of Johnson, Akpanekpo, Okonna, Adeboye, and Udoh (2017) also found in their study that 27.5 per cent of University students use psychoactive substance.

Results also revealed that marijuana is mostly taken for recreational purposes. This is according to the response of the respondents where 92.7 per cent of the representative sample maintain that marijuana is mostly used for recreation purpose. This is true as most people take marijuana because it is like aphrodisiac. Asuni (1964) in his study supports this finding where he argued that the only reason it is grown in Nigeria is for smoking. It is used for fibre or other herbal remedies and some of its users see it as aphrodisiac. Results also revealed that people start behaving abnormal after taking marijuana. This is according to the response of the respondents where respondents 77.3% maintain that people start behaving abnormal after taking marijuana. This is true because according to Asuni (1964), most youths take marijuana during celebration of relaxation period with the hope of the aim of achieving mirth and enjoyment. Johnson, Akpanekpo, Okonna, Adeboye, and Udoh (2017) maintain that substance abuse such as marijuana are taken due to beliefs that it relieve anxiety and stress, induce sleep, ease tension, cause relaxation or help users to forget their problems.

From the analysis of the data carried out using independent t-test, result revealed public knowledge of psychosis mental health effect of marijuana addiction significantly differs from lack of knowledge of psychosis mental health effect of marijuana addiction. This is so because the calculated t-value of (329) = 3.57 was higher than the critical t-value of 1.96 at $p < .05$. Also, the analysis revealed that 61.6 per cent of the study population have knowledge of the dangers of becoming addicted to marijuana. This finding gives credence to the dangers posed by marijuana and supports the works of other scholars such as Hanna, Perez and Ghose (2017), Paruk and Burns (2015), Memedovich, Dowsett, Spackman, Noseworthy and Clement (2018) and Guttmanova, Kosterman, White, Bailey, Lee, Epstein, Jones and Hawkins

(2017), who all found in their study that marijuana significantly causes mental health illness. The study hereby concludes that there is moderate knowledge of the psychosis mental health effect of marijuana addiction in Calabar, Cross River State, Nigeria.

5. Conclusion and Recommendation

This study has assessed public knowledge of the impact of marijuana addiction on psychosis mental health. From the analyses of the data gathered from the field, there is public knowledge of the mental health risk factor of marijuana addiction. But with one begins to wonder, with the high knowledge of the health effect of marijuana addiction, then why is there a high prevalence. Hence, there is need for the government and its Drug enforcement agency formulate drastic laws and put in place punitive measures that will curb the distribution, sale and consumption of marijuana. public policy makers, religious institution and health institution need to collaborate and create more awareness on the dangers and mental health effect of marijuana addiction. Education is the foundation of all society. It helps in building morals in growing children. There is need for parents to inculcate on their children the right values of the society by so doing, such child will learn the risk factor associated with marijuana and psychotic drug use. Psychotic substance abuse should be strengthened in the educational curriculum of schools, this will help inculcate in children the danger of engaging in recreational drugs such as marijuana.

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