

# The Level of Knowledge, Attitude, And Effects of Covid-19 Among Marijuana Users in Ghana

(A Case Study of The Sabon Zango Community, Ghana)

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## Abstract

The aim of this study was to assess the level of knowledge, attitudes, and effect of covid-19 on marijuana users in the Sabon Zongo community during the Covid-19 pandemic in Ghana. The study employed a cross-sectional quantitative study design *to assess the effect of Covid 19 on marijuana users*. A redcap tool was used to collect the data and prepared it by editing, coding, transcribing, and cleaning. The data was analyzed using Microsoft Excel tool and SPSS version.25.1 and results were presented in descriptive statistics such as frequencies, percentages, tables, and figures. A total sample size of 218 *participants* took part in this aspect. A majority (50.5%) of the respondents were within the 21-25 age group. The results showed a high knowledge about Covid- 19 (40.5%) among marijuana users with *an increase in marijuana intake during the pandemic season resulting in a 61.8% incremental jump in high rolls and a commentary reduction in the number of people smoking low rolls from 74.3% to as low as 12.5% during the same season*. In conclusion, there was high knowledge about Covid-19

(40.5%) among marijuana users with *an increase in marijuana intake resulting in a 61.8% increase in high rolls and a reduction in the number of low rolls from 74.3% to 12.5% during the same season*. even though their attitudes remained unchanged.

**Keywords:** Knowledge, Attitude, Effects, Covid 19, Marijuana Usage

## Introduction

Substance abuse is defined by the World Health Organization (WHO), as the hazardous use of psychoactive substances which also include alcoholic beverages and illegal drugs. [1]. In-depth research and more accurate and detailed data have revealed that the adverse health consequences of drug use are more severe and widespread than previously thought. Globally, some 35 million people are estimated to suffer from drug use disorders and require treatment services, according to the World Drug Report, released by the United Nations Office on Drugs and Crime [2]. According to the Alvarado Parkway Institute in 2019, they characterize two main types of substance usage disorders: alcohol use disorder and drug use disorder. Individuals in some circumstances use or abuse both substances, while others are addicted to one or the other. [3]

Marijuana has been referred to as cannabis but also has other names such as weed, ganja, dope, etc. [4], and it contains over 400 chemicals [5] but only 61 chemicals are unique to this cannabis plant [6]. It is usually a mixture of leaves that have been dried, with its stems and the seed of the hemp plant appearing in a brown,

green, or gray color. Usually, marijuana when smoked gives off a distinctive sweet smell. The element that causes an individual to go “high”/ “boozed”/ “hazed” is called Tetrahydrocannabinol (THC), this element initiates the mind-altering effects which classify marijuana as a drug [5]. According to international statistics, Marijuana is one of the most used drugs worldwide and there are surrounding myths about it being safe to use because it is legalized in some countries [7]. Health experts caution that notwithstanding the benefits of marijuana its health risks far outweigh the benefits. A study conducted in 2020 in Ghana sampling 894 students of secondary students in Accra, showed the prevalence of and the association between alcohol, cigarette, and marijuana use. Out of the sample respondents, with a mean age = of 17.4 years, Standard deviation = 1.40, Males (boys) 43.1% found that overall, lifetime alcohol use was 25.1%; lifetime cigarette use was 7.5%; and, and time marijuana use was 2.6% and males were significantly more likely than females to be lifetime users of all three drugs, but not as current users. Logistic regression analysis showed that the lifetime use of both marijuana and cigarette appears to be strongly related to lifetime alcohol use, which is more prevalent [8]. The world is engulfed in a state of uncertainty with scourges of morbidity and mortality rates without clear treatment options available and no vaccines insight to arrest this deadly pandemic. In an attempt to rescue themselves from the jaws of this deadly virus and to restore some sense of normalcy to their lives during this SARS-Cov-2 (Covid-19) pandemic, it is not surprising therefore to find out that individuals and nations have resorted to many possible treatments options among which include, traditional, herbal, allopathic and the role of cannabis and cannabinoids, their therapeutic efficacy as they relate to Covid-19. Covid-19 is also referred to as “SARS-CoV-2”, it is a communicable or infectious epidemic that became a pandemic, it is caused by a freshly discovered coronavirus. Elderly people and individuals with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, immunosuppressed individuals, and cancer patients are more likely to develop serious illnesses [9]. In the fight against the spread of the disease by individuals, many individuals could exercise at home during the lockdown, others also believed that alcohol intake, smoking, and the use of some substances e.g., garlic, smoking cigarettes, marijuana, etc. can protect them against COVID-19 [10]. Very little is known about the general public’s perception, beliefs, and attitudes towards youthful marijuana use and its related concerns, risk, etc. [11] It is observed that residents of the Sabon Zongo Community do not observe these protocols due to their belief that Marijuana smoking provides enough protection against Covid -19. This perception puts everybody at risk including women and children and leads to marijuana abuse with its negative consequence on health outcomes. This paper aims to study the level of COVID-19 knowledge, attitude and perception among marijuana users in the Sabon Zongo community

#### Method:

The study employed a quantitative *method*. A semi-structured interview guide was designed to conduct a face-to-face interview and focused group discussions with respondents which explored the research questions and objectives of marijuana usage during the Covid-19 pandemic. A redcap tool was used to collect the data. Once the data collection was done, it went through a data preparation process, including editing, coding, transcribing the stored data, and cleaning. The data were analyzed in Microsoft Excel tool and SPSS version.25.1 and presented in descriptive statistics such as frequencies, percentages, tables, and figures. Pearson’s chi-square test of association was used to discover if there was a relationship between two categorical variables, *whereas the Phi Cramer’s V was used to measure the strength of association* whilst the odds ratio (OR) was used measures by what probability an event was likely to occur

#### Study Design:

The study employed a cross-sectional quantitative design

### Inclusion Criteria

Participants of this study were chosen with the following criteria to be enrolled.

- Individuals above 15 years
- Individuals who live in the study enclave
- Individuals with or without experience in marijuana use

### Exclusion criteria

- Individuals who do not live in the study enclave
- Individuals below 15 years

### Data Collection Technique:

A semi-structured interview guide was designed to conduct a face-to-face interview with respondents which explored the research question and objectives of marijuana users during the Covid 19 pandemic

Statistical Analysis: Pearson's chi-square test or the chi-square test of association was used to discover if there is a relationship between two categorical variables, whereas the odds ratio (OR) was used to measure by what probability an event is likely to occur compared to other factors.

### Ethics considerations

Ethics clearance was obtained from the Institution Review Board of the Ministry of Health Ghana

### Results and Analysis:

#### Sociodemographic Characteristics of Patients

Table one (1) presents a summary of the demographic characteristics of respondent sent who used marijuana during the COVID-19 period. The total of respondents was 200 respondents. The majority of the respondents lay within the 21-25 age group category constituting 0.5% of the total respondents. This age group was followed 26-30years age group which constituted 26.0% (52) and the 31-35age group at 10.5%, however, the teenagers were 13% (26) thus the age group of 15-20years. The number of males outnumbered the females by 23.0%, the males 123 which formed 61.5% of the respondents. The majority of the respondents were single 118(59.0%), followed by those who were married 54(27.0%), separated 15(7.5%) and, divorced 13(6.5%). Almost all of the respondents were educated, cumulatively, the educated respondents were 91.5% of them. There were varieties of occupations thus accountants (.5%), artist (1.0%), football coaches (0.5%) etc. Among the respondents the majority were traders they constituted 31.0% of the respondents. Comparatively, those who had employment or had an occupation of a kind outnumbered those who were unemployed 11(7.5%).

Table 1: Demographic Characteristics

	Sex	Frequency	Percent	Cum. Percent
Gender	Male	123	61.5	61.5
	Female	77	38.5	100.0
	Total	200	100.0	
age group	15-20	26	13.0	13.0
	21-25	101	50.5	63.5
	26-30	52	26.0	89.5
	31-35+	21	10.5	100.0
	Total	200	100.0	
Marital Status	Single	118	59.0	59.0
	Married	54	27.0	86.0
	Divorced	13	6.5	92.5
	Separated	15	7.5	100.0
	Total	200	100.0	
Education level	No Education	17	8.5	8.5
	Basic/Primary	74	37.0	45.5
	Secondary	98	49.0	94.5
	Tertiary	11	5.5	100.0
	Total	200	100.0	

Table 2: Respondent's Occupation

	Response	Frequency (N=200)	Percent (%)	Cum. Percent (100%)
Occupation	Trader	31	15.5	90.5
	Other	22	11.0	11.0
	Unemployed	15	7.5	98.0
	Entrepreneur	14	7.0	38.5
	Student	11	5.5	71.0
	Barber	8	4.0	16.5
	Driver	8	4.0	29.5

Tailor	7	3.5	74.5
Musician	6	3.0	51.5
None	6	3.0	56.0
Carpenter	5	2.5	23.0
Hairdresser	5	2.5	43.0
Bartender	4	2.0	18.5
Event planner	4	2.0	40.5
Seamstress	4	2.0	61.0
Shop attendant	4	2.0	63.0
Dancer	3	1.5	25.5
Receptionist	3	1.5	58.5
Artist	2	1.0	12.5
Businesswoman	2	1.0	20.0
Driver's M	2	1.0	30.5

Table 3: Respondents Occupation *Cont.....*

	Response	Frequency (N=200)	Percent (%)	Cum. Percent (100%)
Occupation	Electrician	2	1.0	31.5
	Housing Agent	2	1.0	45.5
	Manager	2	1.0	47.0
	Mansion	2	1.0	48.0
	N/A	2	1.0	52.5
	Shop owner	2	1.0	64.0
	Welder	2	1.0	100.0
	Accountant	1	0.5	11.5
	Businessman	1	0.5	19.0
	Caretaker	1	0.5	20.5
	Clerk	1	0.5	23.5
	Coach	1	0.5	24.0
	Housewife	1	0.5	43.5
	Household	1	0.5	44.0
	Housewife	1	0.5	44.5
	Café attendant	1	0.5	46.0
	Mechanic	1	0.5	48.5
	Nanny	1	0.5	53.0
	Painter	1	0.5	56.5

Phone repairer	1	0.5	57.0
Repairer	1	0.5	59.0
Shop Super	1	0.5	64.5
Store manager	1	0.5	65.0
Store owner	1	0.5	65.5
Teacher	1	0.5	75.0
Waiter	1	0.5	98.5
Waitress	1	0.5	99.0
Total	0	0	

#### Knowledge of Marijuana Smokers on Covid 19

Table 4 below presents the analysis of respondents' knowledge. The results showed that marijuana users who had knowledge of Covid 19 were as follows; eighty-one (81) of them representing 40.5% had high knowledge on Covid 19 pandemic. This actually formed majority of them, they answered all three questions correctly. Those who had good knowledge were 44 (22.0%) by answering two answers correctly only. Of those who had poor knowledge 75(37.5%), they had two questions wrongly answered.

Table 4 Knowledge of Marijuana Smokers on Covid 19

	Frequency (N=200)	Percent (%)	Cumulative Percent (%)
Good	44	22.0	22.0
Poor	75	37.5	59.5
Excellent (high)	81	40.5	100.0
Total	200	100.0	

#### Relationship between the Demographic of respondents and their knowledge of Covid- 19

Relationships were found between the respondent's demographics and their knowledge of Covid 19. None of them were significant except for their education level which showed a statistically significant relationship ( $p=0.00 < 0.05$ ).

Table 5: Relationship between the Demographic of respondents and their knowledge of Covid- 19

Demographics		Knowledge on Covid 19				P-value
		Excellent (high) N (%)	Good N (%)	Poor N (%)	Total	
Marital Status	Single	47(39.8)	26(22.0)	45(38.1)	118	0.969
	Married/Once married	34(41.5)	18(22.0)	30(36.6)	82	
Age	Teens	7(26.9)	9(34.6)	10(38.5)	26	0.434
	Adults	10(47.6)	4(19.0)	7(33.3)	21	
	Youth	64(41.8)	31(20.3)	58(37.9)	153	
Education	No Education	2(11.8)	0(0.0)	15(88.2)	17	0.000**
	Basic/Primary	6(8.1)	17(23.0)	51(68.9)	74	
	Sec &Tertiary	73(67.0)	27(24.8)	9(8.3)	109	
Gender	Male	49(39.8)	23(18.7)	51(41.5)	123	0.228
	Female	32(41.6)	21(27.3)	24(31.2)	77	
Total		81(40.5)	44(22.0)	75(37.5)	200	

“\*\*” = Significance

#### The use of Marijuana before, and during Covid 19 season and its perceived Effects

The results indicated that 21.9% smoked or used marijuana because it was their self-identity, however, 26.9% (52) mentioned that they used it to aid them to increase concentration. 17.1% used it because it prevented the disease. The majority 80.2% (154) said that Covid-19 had affected their attitudes towards the use/smoking of marijuana. 96.3% (184) of the respondents were marijuana smokers. 45.8% indicated that access to marijuana was easy. 66.0% (123) of the respondents had smoked marijuana for 5 years and over (table 4.5). In figure 4.1 below, some respondents said they used it to prevent the Covid 19 virus spread to them, others answered it was to cure Covid 19 disease, and others to treat cough and weakness. These categories formed 84.6%. The remaining 15.4% only used marijuana because they needed marijuana. Figure 4.2 throws light on how many rolls of marijuana were used before the Covid, majority 74.3% of them smoked “1 roll per day or 1-2 rolls per day” as compared to those who smoked “3-5 rolls per day or more than 5 rolls per day”. Table 4.4 presents the pre- and post-frequency of marijuana use. It is shown that during the Covid 19 season the high rolls were 87.5% (168) more than the use 25.7% (49) of marijuana during Covid 19 season.

Table 6: Marijuana use before Covid Season

	<i>Responses</i>	<i>Frequency</i>	<i>Valid Percent</i>	<i>Cum Percent</i>
<i>Ever used marijuana</i>	<i>No</i>	7	3.7	3.7
	<i>Yes</i>	184	96.3	100.0
	<i>Total</i>	191	100.0	
<i>Difficulty in getting Marijuana</i>	<i>Very easy</i>	41	21.1	21.1
	<i>Very difficult</i>	18	9.3	30.4
	<i>Difficult</i>	58	29.9	60.3
	<i>Easy</i>	48	24.7	85.1
	<i>Don't know</i>	29	14.9	85.1
<i>The first use of marijuana</i>	<i>&lt;5years ago</i>	68	34.0	
	<i>5-10yrs ago</i>	102	51.0	
	<i>10-20yrs ago</i>	17	8.5	
	<i>20-25yrs ago</i>	2	1.0	
	<i>25yrs ago</i>	2	1.0	
<i>Reason for Marijuana use</i>	<i>Self-Identity</i>	42	21.8	21.8
	<i>To increase concentration</i>	52	26.9	48.7
	<i>To increase appetite</i>	37	19.2	67.9
	<i>To prevent or treat a disease</i>	33	17.1	85.0
	<i>Availability</i>	29	15.0	100.0
	<i>Total</i>	193	100.0	
<i>Attitude towards marijuana</i>	<i>No</i>	38	19.8	19.8
	<i>Yes</i>	154	80.2	100.0
	<i>Total</i>	192	100.0	



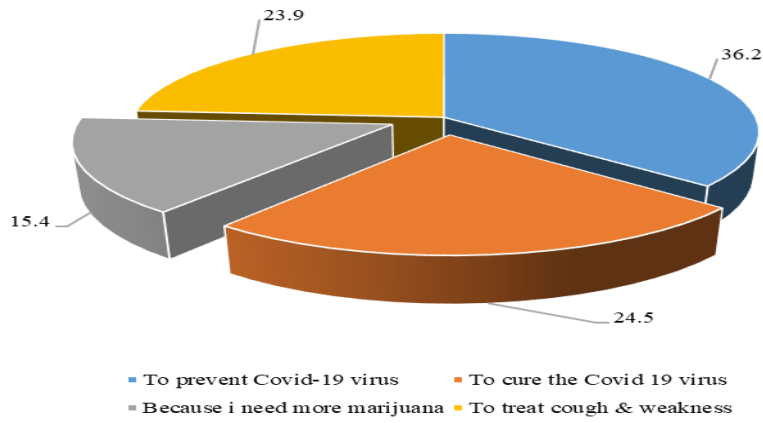


Figure 1: A pie chart showing the percentages of participants and perceived effects of marijuana use

Figure 2: A bar chart showing the frequency of marijuana use by rolls in percentages

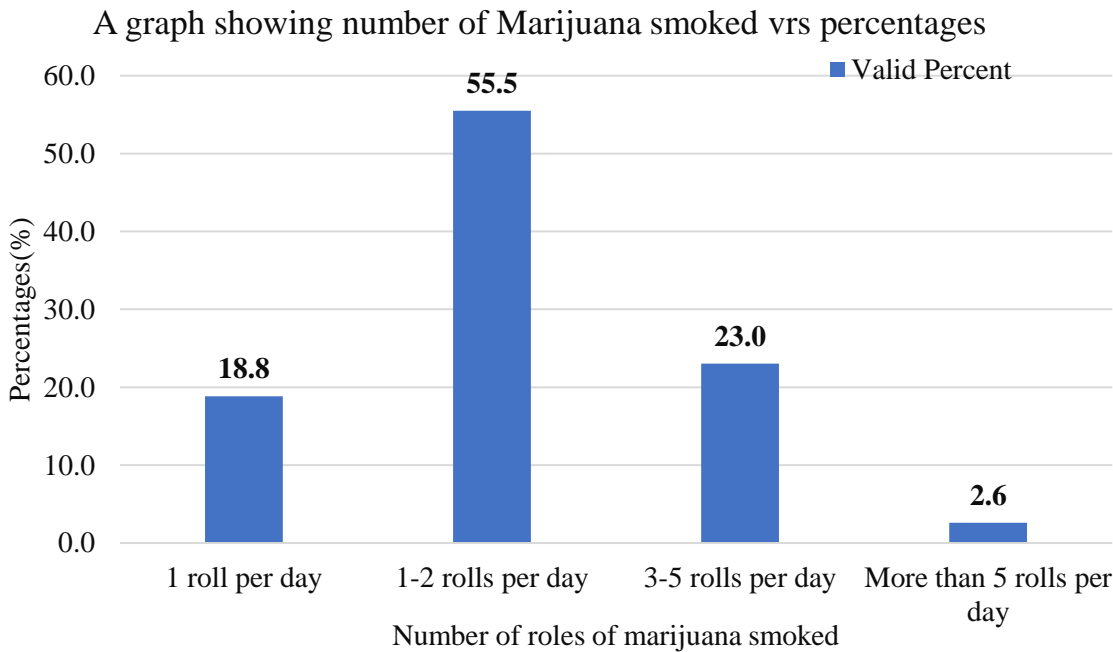


Table 7: Respondents' Attitude to Marijuana use and its Effects during Covid Season

	Responses	Frequency	Valid Percent	Cum Percent
Believe among Marijuana users	False	12	6.1	6.1
	True	185	93.9	100.0
	Total	197	100.0	
Afraid of being infected with Covid	No	130	65.0	65.0
	Yes	70	35.0	100.0
	Total	200	100.0	
Covid 19 and work	No	129	64.8	64.8

	<i>Yes</i>	70	35.2	100.0
	<i>Total</i>	199	100.0	
<i>Covid 19 precautions</i>	<i>No</i>	27	13.5	13.5
	<i>Yes</i>	173	86.5	100.0
	<i>Total</i>	200	100.0	
<i>Scared of being in Crowded palaces</i>	<i>No</i>	102	51.0	51.0
	<i>Yes</i>	98	49.0	100.0
	<i>Total</i>	200	100.0	
<i>Covid 19 affects the day to day activities</i>	<i>No</i>	73	36.5	36.5
	<i>Yes</i>	127	63.5	100.0
	<i>Total</i>	200	100.0	
<i>Tested or ready To test for Covid 19</i>	<i>No</i>	70	35.2	35.2
	<i>Yes</i>	129	64.8	100.0
	<i>Total</i>	199	100.0	

Pearson's chi-square test or the chi-square test of association is used to discover if there is a relationship between two categorical variables, whereas the odds ratio (OR) measures by what probability an event is likely to occur compared to other factors. The results show that there is a significant association between the pre and during covid 19 use of marijuana [ $X^2(1) = 13.7, p=0.00 < 0.05$ ]. It was found that the odds of smoking marijuana high rolls were 8.8 more than smoking marijuana before Covid 19 season the strength of the association is weak at 0.27

Table 8: Pre and Post Covid 19 Marijuana use and its effects on attitudes towards it

		<i>Frequency</i>	<i>Percent</i>	<i>Cum. Percent</i>
<i>Pre-marijuana use</i>	<i>high rolls</i>	49	25.7	25.7
	<i>low rolls</i>	142	74.3	100.0
	<i>Total</i>	191	100.0	
<i>Post marijuana use</i>	<i>high rolls</i>	168	87.5	87.5
	<i>low rolls</i>	24	12.5	100.0
	<i>Total</i>	192	100.0	

## Results and Discussions

### Knowledge of Marijuana Smokers on Covid 19

The results showed that the knowledge of marijuana uses on Covid 19, Eighty-one (81) of them forming 40.5% had high knowledge on Covid 19 pandemic. Those who had good knowledge were 44 (22.0%) by answering two correctly only. Of those who had poor knowledge 75(37.5%), had two questions wrongly answered.

## The attitude of Marijuana Smokers on Covid 19

Participants of the study claimed smoking marijuana had had an impact on their attitude very much. They claim to become calm and peaceful when after they had smoked marijuana. They claim they relate well with others by respecting everyone regardless of their age. They have the nod that marijuana gives them protection and therefore they walk around and live their daily lives not wearing a face mask and see any essence in practicing the recommended Covid 19 preventive protocols. This attached attitude to smoking marijuana because it has benefits is also seen in other studies conducted, a study claimed that during the pandemic season, there was an increase in the use of psychoactive substances during the lockdown, including cannabis [12].

## Effects Of Covid-19 On Marijuana Use

from the results, it was realized that the quantity of marijuana (high) rolls smoked by a respondent prior to the covid-19 pandemic was about 25.7% of the study population. this spiked up to 87.5% during and post-pandemic season. similarly, the quantity of marijuana (low) rolls smoked or used before the pandemic season was 74.3% and this reduced dramatically to 12.5% which that there has been a 61.8% incremental jump in marijuana use during the pandemic season. This is consistent with already existing literature on cannabis cultivation since ancient times, beginning in China and India. the initial orientation of its use for curative and therapeutic purposes may have been in the Chinese pharmacopeia, circa 1500 BC [13]. in 1996, California was the first nation to start the medicinal use of cannabis under the “compassionate use act”, also known as Proposition 215. [14]. this act permitted individuals to retain or produce cannabis for personal consumption with a physician’s approval. many countries finally trailed California’s lead. as of November 2017, 29 countries, the District of Columbia, Guam, and Puerto Rico had controlled cannabis (marijuana) use for medical purposes, [15] and recreational use had been approved in 7 states and the District of Columbia. currently, among the use of substances, marijuana is the most used illegal substance in the world. the un office on drugs and crime stated that in the year 2012 there were between 119 and 224 millions marijuana users in the world [16]. marijuana is widely used across all nations by adolescents. marijuana production and cultivation are concentrated in almost all countries worldwide unlike other plant-based drugs which are produced and cultivated in some countries. in a nine-year period thus from 2010 to 2018, the cultivation of marijuana (cannabis) plants was reported by 151 countries in the world and many countries do not have an all-inclusive system in place as a measure for monitoring areas under illegal cannabis farming [17]. despite the negative effects of using marijuana, it has some health benefits but is limited to a certain proportion of tetrahydrocannabinol (THC) which is the main psychoactive compound found in marijuana. a proportion of 0.3% THC in marijuana is recommended to be the legal use of marijuana and for its health benefits [18]. some countries in the world such as Canada [19], Netherlands [20], Costa Rica [21], the united kingdom & Thailand [22], Switzerland [23], Spain [24], Belize, the Czech Republic, Jamaica [25], South Africa [26], Ghana [27], etc. have legalized the medical and the recreational use of marijuana. there are several variations of restrictions or state policies on the use of marijuana among these countries, some countries allow the sale of marijuana, some do not, some allow the public use of it in coffee shops, etc. [20]. a survey conducted by the weekend gardener in the U.S to understand the correlation with the pandemic and marijuana usage involving 1,000 marijuana smokers found a correlation in that the smokers had increased by 5%, thus 16.04% that smoked 10 times a week during the season had spiked to 21.30% [28] the rationale or reasons that led to the spike in smoking marijuana was that they used it as a coping mechanism, they used it to treat stress and anxiety (27.6%) and it also helped them sleep better (21.7%). more so, about Shalf of them thus 49.6% admitted their smoking habit will not change or they will not withdraw from smoking after the pandemic seizes or is under control as compared to only 35.5% who will withdraw [28]. The “gateway drug theory” describes the

phenomenon in which an introduction to drug-using behavior through the use of tobacco, alcohol, or marijuana is related to the subsequent use of other illicit drugs. The theory suggests that all other things being equal, an adolescent who uses any one drug is more likely to use another drug. [29]) their study revealed that early exposure to cannabinoids in adolescent rodents abates the reactivity of brain dopamine reward centers later in adulthood. A study conducted in 2019 in Ghana on the impacts/effects of marijuana use revealed that the impacts of marijuana use among the youth are related to psychosocial and the likelihood of using other potent drugs, the "Gateway Drug Phenomenon" [30].

#### Limitations of the study

The limitations of the study were that funds were not available to further do lab analysis on respondents in order to ascertain the efficacy of marijuana on COVID -19.

Conclusions: There was high knowledge about Covid 19(40%) among marijuana users and *there was an increase in marijuana intake during the pandemic season resulting in a 61.8% incremental jump in high rolls and a commentary reduction in the number of people smoking low rolls from 74.3% to as low as 12.5% during the same season.*

Recommendations: I recommend further research in this area, especially, to ascertain the therapeutic effect of marijuana against covid-19.

Conflict of interest: **The author has no conflict of interest to declare**

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