

MARIAJUANA SMOKING IN PANAMA

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IN JUNE, 1931, at the request of the Commanding General, Panama Canal Department, a committee was designated to reinvestigate the effect of the smoking of marijuana on military personnel, with a view to securing additional evidence that might possibly be used as a basis for the formulation of regulations forbidding the cultivation, possession, or sale of marijuana in the Canal Zone. The Governor designated three members to serve on the committee (Health Department officials) ; the Army two members (officers of the Medical Corps) ; and the Commandant, 15th Naval District, one member (medical officer of the Navy).

The committee concluded that the principal and most practicable method of securing reliable information would be to hospitalize a considerable number of soldiers who were known to be users of marijuana, permit them to use it, then withdraw it and have the patients observed and studied throughout the period of hospitalization by a psychiatrist of high professional standing. The marijuana used was grown at the Canal Zone Experiment Gardens, assuring uniformity of product. Thirty-four soldiers were observed.

It was deemed advisable as a matter of interest and for purposes of record to incorporate in the report a resume of the general information available relative to the cultivation, preparation, uses, and effects on human beings of marijuana (*Cannabis sativa* L.) in various parts of the world, including its use as a stimulant and intoxicant on the Isthmus.

Marijuana, mariahuana, marihuana, marijuana, Indian hemp, *Cannabis sativa* L., *Cannabis indica*, and *Cannabis americana* are synonymous, and in this report the term marijuana will be understood to apply to all the above terms.

It appears that marijuana is not a correct term in the Spanish language but that it is a provincialism common to Panama and derived from the word "maraguango" The latter mentioned term is a general one and is interpreted to mean smoking, drinking, or snuffing of any substance that produces the loss of clear mentality, hallucinations, delusions, or disturbed sleep. The plant marijuana, grown locally, is synonymous with *Cannabis sativa* L. or *Cannabis indica* and Indian hemp. Hemp is cultivated all over the world, its culture probably originating in China from whence it spread. It is cultivated for three purposes; for the fibre, out of which rope, twine, cloth, and hats are made; for the seed, from which a rapidly drying oil is obtained that is used in the arts and as a commercial substitute for linseed oil; and for the narcotic principle contained in the resin of the dried flowering tops of the pistillate plant. The seed is also sold as a constituent of commercial bird seed. It is not known when the plant was introduced into Mexico and the southwestern part of the United States, but probably along with the early Spanish settlers. It was introduced into Chile in the sixteenth century. The early cultivation of hemp in the United States was of the small European variety but this has been replaced since 1857 by the larger Chinese hemp. Practically all the seed for the present day American hemp culture is grown in the Kentucky River valley. Hemp is found growing wild in the ' , slough', district of the Illinois River valley, especially in Tazewell County, where the gathering of the flowering tops is a local industry. The harvest is sold to the pharmaceutical

trade. There is no evidence that the smoking of hemp or other abuse respecting this plant is practiced or known to those engaged in this occupation. Formerly, the majority, if not all, of the imports of *Cannabis sativa* into the United States was from India where hemp was largely cultivated for its narcotic principle. The menace of habit formation which its culture made possible led to the imposition of such drastic restrictions to its cultivation that the supply of *Cannabis indica* required by the United States had to be sought elsewhere. To meet requirements for pharmaceutical use in the United States the cultivation of *Cannabis sativa* became an industry in the United States, principally in the valleys of the Kentucky and the Illinois rivers.

Marijuana is designated as a "narcotic" in the laws of several states. It is one of several drugs included in the anti-narcotic laws of sixteen states.

In India the plant is grown to some extent for the fibre but also, and in some parts exclusively, for its narcotic principle. There are three principal forms in which it is prepared but of these there are many modifications. The first is that known as charas; the second, ganja; and the third, bhang. Charas is the resinous exudate found in the bark, the leaves and on the pistillate or female flowers, and even on the fruits. Ganja is an agglomeration of the pistillate flowering stems with the exuded resin. Bhang consists of the dried mature leaves and to some extent the fruit but not the twigs.

Charas, the resinous substance which exudes naturally from the bark, leaves and pistillate flowers, is smoked for its stimulating, intoxicant, and narcotic effects.

Ganja is prepared from the pistillate flowering heads which must not be allowed to form fruit if the best quality of ganja is desired. The resin is pressed out and the mass of agglomerated flowers and resin is pressed into the desired shapes. Ganja, also is used for smoking for its stimulating, intoxicant, and narcotic effects.

Bhang consists of the dried leaves and to some extent the dried fruits of the plant. The resin is not extracted from this product; it is used directly in the preparation of the products which furnish the effect. One of these products is "hashish," an intoxicating beverage. Another is a sweetmeat known in India as "majun" or "majum." Bhang is made chiefly from the wild plants which grow abundantly as an escape from cultivation. Bhang is reported to be much weaker than ganja or charas and is supposed to be less injurious. The cultivation of marijuana as a source of the active principle is a highly specialized one in India, and the plants are given special attention.

The plants are sexually distinct. The male plants yield little or no resin and are not allowed to remain in the field after their male characters have become apparent. It is endeavored to rid the field of all male (staminate) plants, which, if allowed to remain, fecundate the flowers of the female (pistillate) plants, causing the formation of fruits, in which process the pistillate plants themselves rapidly deteriorate as sources of the desired active principle.

Marijuana as grown among the Chiva.-Chiva Trail farmers in the Canal Zone.--In this locality (Pacific side of the Canal) there is cultivation on a small scale. Apparently some farmers grow only a few plants to supply their own wants, while others evidently have more than can be used by themselves and their families. The surplus is sold to soldiers. The plant is used to make tea; four or five, or more dried leaves are placed in a cup and steeped in boiling water. There is among the colored people great faith in the efficacy of this drink as a mild

stimulant which gives a feeling of well being, and also as a preventive of malaria. The smoking of dried leaves and flower heads in the form of cigarettes seems also to be not uncommon.

Little attention is paid by the natives to removing the staminate (male) plants before pollen inaction and their leaves are often mixed with the leaves and flower clusters of the pistillate (female) plants, although it is generally understood that the former are much less potent. For these reasons it will be seen that marijuana purchased locally is probably of quite variable character and tests of its physiological and mental effects in any experiment may be expected to vary likewise. For this reason the committee felt that the product to be used in its experiments should be specially selected material furnished by the Director of the Canal Zone Experiment Gardens.

No charas or ganga has been found among the military personnel in the Canal Zone, nor has either been found among the civilian personnel.

Uses in medicine--and action. --Marijuana {Cannabis indica or C. sativa) is described in the Epitome of U. S. Pharmacopoeia, and National Formulary as a "narcotic poison, producing a mild delirium. Used in sedative mixtures, but of doubtful value. Also employed to color corn remedies."

In the 20th edition of the United States Dispensatory there is the following description:

Aside from the local irritant effect the action of cannabis seems to be limited almost exclusively to the higher nerve centers. In man this is first manifested by a peculiar delirium which is accompanied by exaltation of the imaginative function and later by a remarkable loss of the sense of time. The delirium is often accompanied with motor weakness and diminished reflexes and generally followed by drowsiness. Cannabis is used in medicine to relieve pain, to encourage sleep, and to soothe restlessness.

The drug is used very little in the practice of medicine. It is considered unstable and unreliable and as there are other drugs which can be used to relieve pain and produce sleep the prescribing of this drug for these purposes is falling into disuse.

Marijuana in the United States.-Recent legislation enacted by the Seventieth Congress, approved January 19, 1929, authorizes the establishment of two United States Narcotic Farms for the confinement and treatment of persons addicted to the use of habit forming narcotic drugs. The act specifically defines the term "habit-forming narcotic drug" and includes in the section which defines these drugs Indian hemp and its various derivatives but it does not appear in the other Federal anti-narcotic laws. The drug is included in the anti-narcotic laws of sixteen states.

In a "Memorandum on 'dagga' smoking and its evils" , published by the Department of Public Health, Union of South Africa, 1924, there is found the following report by the Rand Probation Officer :

There is a considerable amount of dagga (marijuana) smoking amongst European males of the poor white and delinquent type, but I have never met an instance of the habit amongst intelligent or educated Europeans. All the European smokers I have met have acquired the habit during adolescence, though most have dropped it again in early manhood. It is

sometimes acquired in boyhood from association with natives while herding stock or in similar occupations in the country.

The type of youth from whom the dagga smoker is recruited is generally of a low standard of intelligence, and the deteriorating effects of the drug react upon this nidus to confirm the habit early and to drag the smoker to the lowest depths.

The memorandum further states that :

The attraction of the drug is greatest for those living dull and monotonous lives, as in barracks, compounds, prisons, reformatories, hostels, etc., and also for the degenerate or mentally unstable; the latter are especially prone to become addicts once they have experienced the drug.

In certain quarters of the town and in certain schools, "gangs" of lads between the ages of 10 and 16 years daily smoke three or more cigarettes containing dagga. The evil effects of the drug quickly show themselves in these immature youths by their emotional instability while under the influence of the drug and the dull, lack-lustre look that stamps their faces when the effects have passed off.

As far as can be ascertained marijuana was not used for smoking by the personnel engaged in the construction of the Panama Canal, and police records do not show any cases of marijuana intoxication during that time. In fact, the first information reaching police headquarters that marijuana was being used here was about 1916 when the Chief of Police was informed that soldiers of the Porto Rican Regiment were smoking a "weed" which caused unusual symptoms. On investigation the officers of the regiment stated that they knew nothing of this and expressed surprise when the subject was brought up. The next reference to marijuana was on May 26, 1922, when the Provost Marshal, Quarry Heights, Canal Zone, inquired of the Chief of Board of Health Laboratory, Ancon, concerning the nature of marijuana. Several months later the Chief of Police also made an inquiry concerning this drug and desired to know whether it was a narcotic drug within the meaning of the Narcotic Drug Act. From the correspondence it is evident that smoking marijuana had become prevalent among soldiers on duty in the Zone and that there were cases of delinquency attributed to its use.

The first step on record to curb the use of marijuana by the military authorities was in Circular No.5, Headquarters Panama Canal Department, dated January 20, 1923, which prohibited the possession of marijuana.

There is no further reference to marijuana until March 31, 1925, when the Department Commander wrote to the Governor suggesting that a conference of legal, medical, and police officers of the Panama Canal and also of the military authorities be arranged to consider the matter of marijuana traffic.

A committee was appointed by the Governor on April 1, 1925, to investigate the use of marijuana, and to make recommendations as to steps that should be taken for prevention of its use, including, if considered necessary, recommendations for special legislation. This committee consisted of the Chief Health Officer of the Panama Canal, the District Attorney, the Chief of the Division of Civil Affairs, and the Chief of the Division of Police and Fire; also, the Department Judge Advocate, the Chief of the Board of Health Laboratory, the

Superintendent of Corozal Hospital for the Insane, and a representative from the Medical Corps, U. S. Navy , acting in an advisory capacity.

After an investigation extending from April to December, 1925, the Committee reached the following conclusion:

There is no evidence that marihuana as grown here is a "habit-forming" drug in the sense in which the term is applied to alcohol, opium, cocaine, etc., or that it has any appreciably deleterious influence on the individuals using it.

The Committee recommended "that no steps be taken by the Canal Zone authorities to prevent the sale or use of marihuana, and that no special legislation be asked for."

The committee, in making its investigation, held hearings which were attended by the Post Commanders of Fort Clayton and Fort Davis. These officers were invited to give their opinions on the subject and to cite instances where marijuana was the direct cause of military delinquency among soldiers. Members of the committee also visited Fort Davis and the Corozal Hospital for the Insane where they observed soldiers smoking marijuana, and in addition members of the committee observed four physicians and two members of the Canal Zone Police Department who smoked the drug in their presence. Persons who smoked the drug at the request of the committee rendered written reports on the effect. Numerous written and oral statements of opinion were submitted for consideration. Military records of delinquency among the military personnel were also available and the committee found that in only a very small percentage of individuals brought to trial before General Courts Martial, in which there was a record of violence or insubordination, was it possible to attribute the delinquency to marijuana.

The circular which forbade the possession of marijuana was rescinded on January 29, 1926. In December, 1928, the law forbidding the possession and use of marijuana in the Republic of Panama was repealed.

The findings of the Board, however, were not concurred in by most Army officers who exercised command directly over troops. The opinion among them was that marijuana was a habit-forming drug and tended to undermine the morale of a military organization when it was used to any extent by the personnel. There is correspondence on me in the Panama Canal expressing such an opinion and also expressing surprise at the findings of the committee.

On June 23, 1928, the Department Commander directed that a further study be made of marijuana. This study was to continue for one year. The circular letter directing the study reads in part as follows:

Par. 4. In pursuance of this study all cases -of suspected marihuana intoxication and all cases of suspected marihuana addiction will be sent to the Surgeon for investigation. The Surgeon will keep -a record of all cases sent, whether or not the use of marihuana is established. Accurate clinical records of positive cases will be kept. Violations of discipline incident to the use- of the drug will be noted and that coincident with the use of alcohol or narcotics. Surgeons will submit monthly reports of all data upon the subject to the Department Surgeon.

Par. 5. It should be understood that only concrete facts are desired. Opinions or hearsay evidence are not wanted. ...

On June 17, 1929, the Department Surgeon reported to the Chief of Staff that "the inquiry into the use of marijuana by soldiers of the Department had been in effect a full year. The reports of the twelve months indicate that the use of the drug is not widespread and that its effects upon military efficiency and upon discipline are not great. There appears to be no reason for reviving the penalties formerly exacted for the possession and the use of the drug."

On January 3, 1930, the Department Commander called the attention of all Commanding Officers to the fact that the possession or use of marijuana was not per se a military offense and that in any trials or other proceedings taken with a view of the separation of individuals from the military service, any proposed defense alleging that wrongful acts or incapacity was the result of the use of marijuana was not a defense and was not to be so considered.

There is no further reference to the subject until December 1, 1930, when the present Department Commander caused an order to be issued to the effect that "the smoking of marijuana impairs the efficiency of the soldier and is forbidden. Soldiers smoking marijuana or using it in any way will be brought to trial for each and every offense."

There was still considerable traffic in the drug, and Company officers particularly complained of the deleterious effects on the men of their commands who used it. About six months after the publication of the order mentioned in the preceding paragraph (May 22, 1931), the Department Commander write the Governor suggesting that the matter be reinvestigated with a view to securing additional evidence which might possibly be used as a basis for the formulation of regulations forbidding the cultivation, possession, or sale of marijuana on the Canal Zone.

It had been reported that the use of marijuana was particularly prevalent among soldiers at Fort Clayton and that it was easily obtained in various places along the Chiva-Chiva trail. According to reports it was also being smoked extensively by soldiers at Fort Davis.

On June 30, 1931, the committee first mentioned was designated to investigate the use and effects of marijuana.

INVESTIGATION BY THE COMMITTEE

The committee at its preliminary meeting decided that its principal objective would be to hospitalize marijuana smokers at Gorgas Hospital and have them observed by a psychiatrist, a member of the Board. It was considered that this afforded the best and most practicable method of obtaining first hand reliable information concerning the effects of the plant as used in this region. Permission was therefore obtained from the Department Commander to obtain marijuana smokers from the enlisted personnel for hospitalization and study at Gorgas Hospital.

The committee also considered it desirable to obtain as much information as was practicable as to the extent of marijuana smoking in military commands and the amount of delinquency caused by its use.

The study of the effects of marijuana on the individual soldier included a complete neuropsychiatric examination, a clinical-study of the individual after smoking marijuana, and a clinical study of signs and symptoms following its withdrawal.

The statistical data relating to the extent of marijuana smoking in military commands and the delinquency that might be considered attributable to its use were secured from military sources by the Army members of the committee.

The problem of the Committee was therefore: 1. Determination of the extent to which marijuana was being used by military personnel. 2. The physiological effects that result from the smoking of marijuana. 3. Was military delinquency caused by marijuana ?

Findings

1. Determination of the extent to which marijuana is being used by military personnel. -- The following figures are estimates only and were obtained from Post Surgeons through Department Headquarters. They represent the percentage of the command that is presumed to be marijuana habitues :

Per cent Per cent

Fort Amador 0.6
France Field, 2.0
Fort Clayton. 20.0
Fort Randolph. 3.0
Fort Davis 5.4
Fort Sherman 2.6
Post of Corozal 3.1
Quarry Heights 3.0

2. The physiological effects that result from the smoking of marijuana.--During the period from December, 1931, to October, 1932, for ;In average of six days in each case, thirty-four soldiers, collected from four posts in the Panama Canal Department, were observed in Gorgas Hospital for the effects of smoking marijuana. These men, all known to be or suspected of being marijuana smokers, volunteered to enter the hospital, tell all they knew about the use of marijuana among soldiers in Panama and submit to any tests desired.

A. General facts:

1. The length of service in Panama of these soldiers varied from two months to four and eight-twelfths years, the average being one year and six months.

2. The chronological age varied from nineteen to thirty-three years, the average being 23 years.

3. Mental status : None exhibited psychotic symptoms. Sixty-two per cent were constitutional psychopaths and 23 per cent were morons, a total of 85 per cent mentally abnormal.

4. The length of time marijuana was used by them varied from two months to four years, average period being one year and two months.

5. The quantity of marijuana smoked daily varied from one to twenty cigarettes, average being five cigarettes.

B. Common effects of marijuana described by users:

1. Mild intoxication. (Smokers use different terms to describe their sensations, the most common being "brushed up," "high," "happy," "peppy," "rosy," "dopy," "satisfied.")
2. Increased appetite.
3. Induction of sleep an hour or two after smoking.
4. Only five, or 15 per cent, stated they missed marijuana when deprived of it.
5. Twenty-four, or 71 per cent, stated they preferred tobacco to marijuana.
6. These soldiers stated that marijuana was cheap and easy to procure in Panama and that they used it for "a pleasant pastime," usually during hours off duty when they had nothing else to do to amuse themselves. They stated that practically all recruits tried marijuana and those who like it usually continued its use. Their average estimate of the number of habitual marijuana smokers in their respective organizations was approximately 10 per cent.

C. Common effects of marijuana observed in users:

1. No deprivation symptoms were observed even in those who admitted smoking eight to ten cigarettes the day previous to admission to hospital.
2. With the exception of three, all after smoking showed symptoms of mild intoxication. They lost reserve, became animated, laughed without adequate cause, and talked foolishly. During this stage, which lasted for half an hour to an hour or so, neurological and mental tests were performed as well as previously. There was no tendency to combativeness or destructiveness.
3. All stated they were very hungry after smoking and the quantity of food consumed at their subsequent meal confirmed this statement.
4. Pulse rate was markedly increased from a few moments after smoking first cigarette to an hour or more. There was no appreciable variation in blood pressure before and after smoking. There were no other distinctive physiological changes observed, other than a tendency to sleep, in which some indulged for a short while an hour or two after smoking.
5. No ill effects from smoking marijuana for several days in succession were observed even when the soldiers were given marijuana ad libitum.

Resume of Observed Cases

1. The smoking of marijuana is quite common among soldiers in Panama.
2. Morons and psychopaths are believed to constitute the large majority of habitual smokers.
3. Marijuana as grown and used on the Isthmus of Panama is a mild stimulant and intoxicant. It is not a "habit forming" drug in the sense that the derivatives of opium and cocaine are such drugs, as there are no symptoms of deprivation following its withdrawal.

4. Physiological effects observed in addition to intoxication were a marked increase in pulse rate and in appetite and the induction of sleep.
5. No mental or physical deterioration effects of smoking marijuana could be demonstrated, but with this statement should be considered the fact that the soldiers observed were all young men who had smoked marijuana for an average of less than two years.
6. From a medical standpoint the habitual use of marijuana, as of other stimulants and intoxicants, should be considered detrimental to health.
7. Nothing was learned during the investigation to change our impression that the use of marijuana by civilians on the Canal Zone is so slight as to be negligible.
8. The evidence obtained suggests that organization commanders in estimating the efficiency and soldierly qualities of delinquents in their commands have unduly emphasized the effects of marijuana, disregarding the fact that a large proportion of the delinquents are morons or psychopaths, which conditions of themselves would serve to account for delinquency.

The committee had access to the records of the office of the Judge .Advocate of the Panama Canal Department (military headquarters). It was found that during the two year period ending June 30, 1932, of the total military personnel brought to trial before courts martial in only a very small proportion (1.17 per cent) was the soldier charged with having marijuana in his possession, smoking marijuana, or on account of other infractions of military discipline combined with the possession or smoking of the plant.

Delinquencies due to marijuana smoking which result in trial by military court are negligible in number when compared with delinquencies resulting from the use of alcoholic drinks which also may be classed as stimulants and intoxicants.

Of the 51 members of the military personnel (1.17 per cent) in which the use or possession of marijuana constituted one of the charges, in only 4 instances (0.09 per cent) was a charge of violence or insubordination connected therewith. The specifications in these four cases were as follows :

1st case: Possession of marijuana ; drunk and disorderly in Colon and without proper pass; striking a military policeman. 2nd case: Possession of marijuana ; disrespect to a noncommissioned officer. 3rd case: Possession of marijuana; disobedience of orders. 4th case: Possession of marijuana ; breaking arrest.

The .Assistant Adjutant General, Panama Canal Department, in a memorandum to the recorder of the committee stated that "During the last two years ninety-four (94) enlisted men were discharged on account of habits and traits of character which made their retention in the service undesirable; and of the cases examined only three (3) were attributable to the use of marijuana."

RECOMMENDATIONS

1. The present military regulations prohibiting the introduction, sale, possession, or use of marijuana on military reservations should continue in force, as they are believed to restrict the use of marijuana among soldiers.

2. With the evidence obtained and considered by the committee no recommendations for further legislative action to prevent the sale or use of marijuana in the Canal Zone, Panama, are deemed advisable under existing conditions.

Respectfully submitted,

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Balboa Heights-C.Z. October 21, 1932