

Suicide/ Schizophrenia

***Consequences of Acute and
Chronic Cannabis Use***

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ABSTRACT

A review of the suicide/schizophrenia connection with acute and chronic cannabis use. The younger age of the first experience. Cannabis cannabinoids being fat-soluble molecules absorbed by lipids in the cell membrane of the brain. Increased potency of cannabis since the early sixties and the increased dosage schedule. The build-up of tolerance and the gateway effect.

INTRODUCTION

Lettiere notes the parallel between theories of addiction and suicide, and suggests exploring "In a very broad and general manner, the possible linkages between drug using behaviour and other social problem behaviours." [1]. In the ten years since the Lettiere article many other studies [] have linked cannabis use with suicide. This paper will examine the combination of factors which supports and brings us to this conclusion.

THE YOUNGER AGE OF THE FIRST EXPERIENCE

Compared to the early sixties, there was a marked decline in the age of first use of cannabis in the eighties [2, 5]. The means age of first experience in the sixties was 17 years [3]. In the eighties the means age was 14 years. The Gateway Theory of drug use is supported in this report by the fact that 99% of all cannabis smokers previously smoked tobacco and 98% who tried cocaine also used cannabis first [4, 57, 65, 85].

LARGE INCREASE OF USERS SINCE THE SIXTIES

We must also recognise the massive increase in cannabis use in the young. In 1962 only 4% of American 18 to 25 year olds had ever used cannabis. By 1978, 16 years later, that figure was 68% - an increase of 1700% in less than two decades [8]. Studies in Australia on our drug use reveal a parallel with the American's age groups in cannabis use [9, 10, 65]. The age group for which the major causes of death are accident and suicide is the young adolescents using cannabis at a time when they are developing their personality, intellectual capacity and psychosocial skills.

CANNABINOIDS BEING FAT SOLUBLE THUS ALLOWING THC MOLECULES TO BE ABSORBED BY LIPIDS IN THE CELL MEMBRANE OF THE BRAIN

Numerous studies have implicated cannabis as a complicating factor in schizophrenia. There are also many reports of psychotic episodes triggered by cannabis consumption in otherwise healthy individuals. The frequency of adverse mental effects is known to rise sharply with increased tetrahydrocannabinol (THC) dosage - THC being the main psychoactive substance in cannabis [10-31, 46-55, 66-83, 86]. A symposium of over 125 scientists, held in August 1984 at the Oxford University said among other things the mode of THC action on the central nervous system indicates that acetylcholine turnover in the hippocampus through a GABA-exgic

mechanism is of major importance, through the role of the dopominergic or serotonergic mechanism, and involvement of prostoglandins and a -AMP is not ruled out [10, 11, 12, 84,

74, 31].

Dr Robert Gilkeson M.D. says cannabis has 421 bioactive molecules. Of these, 61 are cannabinoids of which THC is the most psychoactive (all the others also have harmful effects). When one inhales cannabis one is inhaling 61 fat-soluble cannabinoids and these molecules look for the lipids in the cell membrane.

It's important to remember that everything that this cell needs to live and get its energy from has to pass through that membrane and everything that the cell produces and the waste products it makes have to leave through that membrane in order for the cell to maintain its energy or metabolism. The thing that takes the most energy in the human brain is the ability to generate activity in the neuronal circuits, to give you images of "now" situations projected into the future. That is one of the cardinal symptoms of the drug user - they cannot make any sense. The name our kids had to invent for this chronic organic brain syndrome right before our unbelieving eyes is "burnt-out" [13].

It would seem that the delicate synergistic balance and interaction of a plethora of neurotransmitters is disturbed to the point of leading to cognitive and behavioural disruptions (psychosis) by the effects of cannabis added to the marginally functional neurotransmitter status of predisposed (schizophrenic) individuals. Once this balance is thrown out of functional limits, the schizophrenic becomes psychotic for a prolonged period of time because the neurotransmitter norespirehine is further depleted by the cannabis while oncomittonly the therapeutic value of the neuroleptic medication is being nullified through metabolic competition, thus offering no protection to the individual [40-54, 14-25, 60-64, 66-83, 86].

Cannabis psychosis varies according to culture, but most reports suggest a persistent delerium, which includes bizarre behaviour and the potential for violence and panic feelings in the absence of the "typical" schizophrenia-like psychotic state. There has been a problem relating marijuana psychosis in Eastern countries to the experience in Western countries because of differences in smoking patterns in the East and West, the difficulty of translating the psychiatric symptoms picture from one culture and body of literature into another, and the impossibility of generalising about the overall marijuana-using population by using cases that come to psychiatric attention [29].

Schizophrenics who use cannabis have been observed to become unusually violent and destructive [30] but the factor that correlates most significantly with delusional activity is the degree of cannabis involvement. Cannabis use does appear to adversely affect the clinical conditions of schizophrenics [66-83].

INCREASED POTENCY OF CANNABIS SINCE THE EARLY SIXTIES

Another factor we must consider is the increase in potency of THC (Tetrahydrocannabinol) in cannabis from the sixties - only .05 to 1.5% - to the eighties - up to 17%. In the nineties, with a hybrid called skunk there is a content of 30% THC delta 9. THC is, molecule for molecule, 10,000 times stronger than alcohol in its ability to produce mild intoxication. Also, because the cannabinoids are fat-soluble, small amounts of cannabis stay in the body up to 10,000 times longer. One area with large amounts of fat is the brain [32-40]. With its tendency to accumulate in the brain and its capacity for cellular damage, cannabis inflicts irreversible damage on the brain, including actual brain atrophy when used in a chronic manner for several years [41, 42, 43]. Assuming a 5 to 10% delta 9-THC content for a cannabis

preparation, and nearly total absorption of this toxin by the lung, the lethal intravenous dose of delta 9-THC for a human would be 1000 to 2000mg or 30mg/kg [6 references 44].

TOLERANCE AND GATEWAY EFFECT

It is generally agreed that humans develop tolerance for cannabis with high, sustained doses over a prolonged period of time [55]. THC appears to have properties pharmacologically similar to opiates, some of which are narcosis, analgesia, respiratory depression, cough suppression, tolerance, and dependence in animals and humans [41]. A "test" for tolerance is the typical pot smoker's red eyes which come about from congestion (blocking up) of the conjunctivae (the mucus membranes of the eye). The long-term user has less of the symptoms of than the new user. This also happens with the increased heartbeat during the high. This tends to slow down as tolerance develops [56, 58].

The most observable aspect of the "drug dependence syndrome" is the pattern of use and the sequence or progression of the signs and symptoms resulting from that use. In the use of any drug there are four basic stages. Whether the user is taking alcohol or marijuana or heroin, the following basic pattern can be observed:

- Stage One: Experimentation and first time use
- Stage Two: Occasional or "social" use
- Stage Three: Regular use
- Stage Four: Dependence on the "road to nowhere"

The most dangerous aspect of drug use is that the chemical becomes the centre of life, leads to physical debilitation after tolerance is reached, and no amount of drug produces the necessary euphoria - only coma or suicide are left [44 - 50].

It is believed that to understand why a young person becomes suicidal it necessary to consider all relevant factors and to determine how these factors exert these influences upon a given individual. We have chosen factors that have changed since the early sixties, some of which may deviate from standard technique summary [55].

Although drug abusers have the unquestionable right to medical treatment, a society cannot bear for long the economic burden of self-destructive individuals. It is no surprise that drug use is a phenomenon of the young. What is surprising is how big a role it has come to play in suicide. The link seems to be that increasing wide-spread abuse, by the young, of cannabis accounts for a large percentage of the alarming rise in the suicide rate among young adults.

Suicidal thoughts must be enquired about diligently and taken seriously. Hospitalisation may be needed for a period of protection as well as for detoxification. Substance abusers do survive these and other crises and the most overlooked and least understood here in Australia is a substance called cannabis.

"WE ARE ONLY AS SICK AS OUR SECRETS"

If a person is engaging in any pleasure-producing behaviour which he or she must keep secret from friends and family, that person is in trouble.

Secrets and lying frustrate social control. If you have any doubt about any behaviour of your

own, or any behaviour of your friends, first ask two questions: "Does this behaviour lead me where I want to go?" and "Do all the people who have a stake in this behaviour know the truth, the whole truth, and nothing but the truth about it?". If either produces a "No" watch out, because a price will have to be paid and it will probably not be pretty.

The youth culture has an easier time accepting and valuing abstinence when it is based on personal problems than when it seems abstract and moralistic. In this regard it's best to use a personal experience, e.g. best friend killed in an alcohol-related car crash and the many tragic results of drug and alcohol use which has led to the views on this important subject.

This leads us to urine testing as part of the evaluation of a client. It is the only practical way to establish use or non-use of a drug.[59]

RECOMMENDATIONS

Physicians have to understand urine testing technology as they understand other clinical testing and they have to use it. Testing a young person for drug use is as important as a routine test for tuberculosis or diabetes. The resulting information about drugs, TB, and diabetes should be made available to the young person and the family in a sensitive but straightforward way. The physicians should supervise these tests and send them to a clinical laboratory for analysis, for a "narcotic screen" (which usually includes opiates, cocaine, benzodiazepines, barbiturates and amphetamines), plus a screening test for marijuana, such as radio-immunoassay or enzyme immunoassay.

These tests are positive for drug use for one or two days after the last use of a drug, except marijuana which may be positive for several weeks after the last use of the drug because the THC, the psychoactive component of marijuana smoke, has saturated the user's fat.

Usually a positive urine test means that the client is a heavy as well as a frequent drug user. A positive urine test should be treated as a signal of a serious problem and it should be explained that drug use must stop for psychotherapy to succeed.

The best way to assess the achievement of this goal of psychotherapy is by repeated urine tests. However, by checking the temperature of the specimen, making sure that it is warm after voiding, it is usually not necessary to observe the test. Some may not agree with zero tolerance

in treatment and in that case I feel they should study the data again and also the references of this paper.

If a urine test is positive, the first task of psychotherapy is to achieve a stable, drug-free state. If this is not done, the common opinion of chemical dependence therapists is that the counsellor is "talking to a chemical, not to a person".[59]

CONCLUSION

This report has not touched on the many other health consequences of acute and chronic cannabis use. The community must recognise that cannabis affects all systems of the body.[41] We cannot ignore the 13,000 scientific studies done on cannabis, not one of which gives it a clean bill of health. A clear understanding of the nature of chemical dependence and usage is in the client's own long-term best interests. Once these two contents are clearly understood, it is usually possible to form a vigorous and constructive therapeutic alliance

around achieving a drug and alcohol-free lifestyle, while promoting values and achievements which are likely to lead to good feelings in the client's life, including a substantial increase in self-esteem and positive relationships with peers and adults.[59]

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