

## ATTACKING MALE SCHIZOPHRENIA DIFFERENCES BETWEEN DRUG USERS AND NON-USERS HISTORY OF MARIJUANA

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### ABSTRACT

*It is estimated that in Indonesia there are over 3.5 million users of psychoactive substances. In that number, only less than 10 thousand people who touched the service. The use of illicit substances such as marijuana is linked to the possibility of developing psychosis and schizophrenia. Where the use of marijuana also can be a risk factor for the onset of schizophrenia, and cannabis marijuana use in adolescence reported to increase the risk for the onset of symptoms of schizophrenia in adulthood. Primarily male users are on average 6.9 years younger on the schizophrenic side than those who do not use. The causal relationship between cannabis and psychosis is still debated, the main discussion revolving on the role of predisposing factors.*

**Research purposes:** *This study aims to determine the presence of attacking male schizophrenia differences between drug users and non-users history of marijuana.*

**Research methods:** *Unpaired numerical analytic research with cross sectional approach, using a sampling technique nonprobability sampling techniques, types consecutive sampling. Subjects in this study were male sex schizophrenic patients in integrated hospital of mental health Prof.Dr. Ildrem North Sumatera in June - September 2015, with inclusion criteria for male patients, schizophrenic patients diagnosed with schizophrenia based on PPDGJ-III and had stopped using marijuana for at least 1 year before being diagnosed with schizophrenia, cooperative and interview able and willing to participate in the study, age of schizophrenic patients between 15-55 years, suffering schizophrenic maximum 5 years, and understand Indonesian language. Exclusion criteria for patients with a history of organic mental disorders and family history with schizophrenia. The study subjects were 60 schizophrenic patients, consisting of 30 people who had a history of marijuana use and 30 people had no history of marijuana use. Data were collected using sample data attachment on demographic data, history of marijuana use and the age of onset of schizophrenia, then tested the Mann-Whitney U test analysis. With the significance value of  $p < 0.05$ .*

**Results:** *Demographic characteristics The most age group in the group with a history of marijuana usage was 26-35 years of age 11 (36.7%) and in the group with no history of marijuana users 36-45 years were 13 persons (43.3%). The highest level of secondary education in two groups, 13 people 43.3% in the group who had a history of marijuana use and 17 people (56.7%) in the group who did not have a history of marijuana cannabis use. The majority of subjects in both groups did not work. 18 persons (60%) subjects with a history of marijuana use were unmarried and in the group who had no history of marijuana usage of 13 people (43.3%). More than half the subjects 18 People (60%) who had a history of marijuana use marijuana  $\geq 16$  times / year with the last use of 1-5 years 17 persons (56.7%). In the group who had a history of marijuana use, first used marijuana with an average age of 21.07 years with an average use of 3.2 pc / day.*

**Keywords:** *Attack, marijuana use, schizophrenia*

### 1. PRELIMINARY

#### Background

Schizophrenia is a severe mental disorder that causes suffering not only to the individual who experiences it, also to the family and the people around it. <sup>1</sup> *Epidemiologic studies catchment area (ECA) reported lifetime schizophrenia is 0.6 to 1.9.* <sup>2</sup> *signs and symptoms of schizophrenia itself is very diverse, and can be grouped into three major groups, namely positive psychotic symptoms, problems with thinking and behavior, and negative symptoms.* <sup>3</sup>

Attacking schizophrenia reported in the age of 15-25 years for males and 25-35 years for women.

In schizophrenia patients the phenomenon of substance abuse is a problem in general. As for the substance abuse and substance dependence includes 10 clinical fig sec Courant: consisting of alcohol, nicotine, cannabis, opioids, cocaine, caffeine, amphetamines, hallucinogens, sedative hypnotics. <sup>3,4</sup> This situation is often encountered in the student / youth of school age where most substances are found in the use of alcohol 26%, 16% cigarettes, and marijuana 9%. <sup>5</sup>

Addiction and substance abuse is also not a new problem in Indonesia. Over three hundred years ago, one of the raw materials similar psychoactive substances have been trafficked and abused by a group of people in Java and Sumatra. Law No 1990 announced psychoactive substances increased sharply. Therefore, it is estimated that in Indonesia there are over 3.5 million users of psychoactive substances. In that number, only less than 10 thousand people who touched the service.<sup>6</sup>

People experiencing first episode psychosis often have a history of substance use, which puts them at a usually risk prolonged psychosis.<sup>7</sup> In a previous study found that substance use can increase the risk of psychotic symptoms in young people, especially for those who have a tendency to psychosis effect.<sup>8</sup>

Some studies have also found a strong correlation between the use of cannabis marijuana by the pschyco. While some studies also show the current age's marijuana use played a role in the development of psychosis. Where the use of marijuana at the attacking of a younger age will be associated with early symptoms at a young age.<sup>9</sup>

Have been known to exist relationship between usage marijuana with schizophrenia. However, the nature the right one from This relationship remains unclear: the previous review that based mainly on cross-sectional study or Clinical. In some studies, the sequence temporal use of marijuana and schizophrenia cannot made, and difficult to be described effect *confounding* (confounding), selection bias and effects of other drugs. As a result, the status of the use of Marijuana etiology in the pathogenesis of schizophrenia is a subject of debate.<sup>10</sup>

Drug use can also be a risk factor for schizophrenia, and the use of marijuana in adolescents is reported to increase the risk for the onset of symptoms of schizophrenia in adulthood. One piece of evidence supporting is that some studies have found the first episode at an earlier age at onset for individuals with comorbid substance use RIW paragraph, although not all studies have shown this. This study was designed to assess the effect of drug use on age at onset of psychosis in first episode schizophrenia in London ,and to examine the relationship between a history of substance use comorbidity, measures of the nature and severity of symptoms, and social functioning as well as neuropsychosocial.<sup>8</sup>

A study by Leberg and his colleagues in the United States reported their likelihood of developing psychosis and schizophrenia after cannabis use, particularly in heavy cannabis use that began in the

early teens. The relationship between marijuana as well as the incidence of psychotic and schizophrenia is very specific compared to other mental disorders.<sup>11</sup> In the study by Veen and colleagues in the Netherlands also showed a strong association between cannabis use and the age of onset of first episode of psychotic symptoms in schizophrenic patient's males.<sup>12</sup>

From the description above where seringny a found cannabis on male patients before being diagnosed with schizophrenia. So researchers interested in conducting this study in a psychiatric hospital Prof.dr.M.Ildrem area of North Sumatra province.

## I.2 Result Problem

Is there any differences in onset in male schizophrenic patients between who has and does not have a history of marijuana use?

## I .3. Hypothesis

There are differences in onset in patients skizofrenk males between with and without a history of marijuana use.

## I .4 Research Interest

### I .4.1 General Interest

For gaining there are differences in onset in schizophrenic patients males between the have and the have history use of marijuana.

### I .4.2 Special purpose

- a. To download characteristic hysterical schizophrenic patient demographics males between having and not having history use of marijuana.
- b. To determine the attack in schizophrenic patients that who had and who had no history of marijuana use

## I .4. Research Purpose

This study may contribute to the development of medical science in particular soul with the quest for causal factors of schizophrenia. In addition, this study also can find a relationship between the use of cannabis with schizophrenia in male patients.

## CHAPTER II

### LITERATURE REVIEW

#### II .1 Schizophrenia.

##### a. Definition

Schizophrenia is a clinical syndrome vary, but very disturbing, psychopathology involving cognition, emotions, perceptions, and other aspects of behavior. The expression of these manifestations varies across patients and over time, but the effects of this disease are always severe and usually durable. The disorder usually begins before the age of 25, lasts throughout life, and affects people of all social classes. Both patients and their families often suffer from poor care and social exclusion due to widespread ignorance of the disorder. Although schizophrenia is discussed as if it is a single disease, may consist of a group of disorders with heterogeneous etiology, and it included patients with clinical presentation, response to treatment, and course of the disease varies.<sup>3</sup>

## b. Etiology

### 1. Genetic Factors

**Table 1. Prevalence of schizophrenia in specific populations**

Population	Prevalensi (%)
General Population	1
The siblings suffer from schizophrenia	8
Children with one parent suffer from schizophrenia	12
Dizygotic twins suffer from schizophrenia	12
Children with both parents suffer from schizophrenia	40
Monozygotic twins suffer from schizophrenia	47

### 2. Biological Factors

The simplest formulation of the dopamine hypothesis of schizophrenia states schizophrenia is caused by the activity of dopaminergic overdose. This theory comes from two observations. First, the efficacy and potency of many drugs antipsikotika (ie dopamine receptor antagonist) is associated with the ability to act as antagonis recipe for dopamine type 2 (D2). Second, drugs that increase dopaminergic Activity, for example, why gain and amphetamines, is psikotomimetik. This basic theory does not elaborate whether dopaminergic hyperactivity is due to too much dopamine release, dopamine receptor hyperactivity to dopamine or a combination of these mechanisms.<sup>3</sup>

Another hypothesis suggests excessive serotonin as a cause of both positive and negative symptoms in schizophrenic and neurotransmitter *inhibitory amino acid gamma-aminobutyric acid*

The presence of genetic contributions for some, or perhaps all, forms of schizophrenia, and a high proportion in the role of schizophrenia is due to an additive genetic effect. For example, schizophrenia and paranoid personality disorder occurs at an increased rate among biological relatives of patients with schizophrenia. Chances are people who have schizophrenia correlated with the relative influence of close relationships (eg, degrees relatively the first or second). (Table 1). In the case of monozygotic twins are genetically the same innate, there sek Itar 50% suffer from schizophrenia. This rate is four to five times compared with dizygotic fanfare or other incidence rates were found in first-degree relatives (ie, siblings, parents, or offspring). The role of genetic factors further reflected in reducing the occurrence of schizophrenia among second and third degree relatives, the hypothesis that one will decrease the genetic load.<sup>3</sup>

(GABA) is associated with the pathophysiology of schizophrenia is based on the discovery that some patients with schizophrenia has lost neurons GABA- *ERGIC*. GABA has a regulatory effect on the activity of dopamine and an inhibitory neuron loss in dopamine activity, and loss of inhibitory *GABA neurons-ERGIC* can cause hyperactivity of dopaminergic neurons.<sup>2</sup>

### 3. Psychosocial Factors

#### 1). Psychoanalytic Theory

Sigmund Freud medal right that schizophrenia is caused by a fixation in the development that occurred earlier than that led to neurosis, and also that the effects of the ego that plays a role in the symptoms of schizophrenia.<sup>3</sup>

#### 2). Learning Theory

In this theory, schizophrenia develops because of poor interpersonal relationships due to following a bad example or model during childhood.

#### 3). Family Dynamics

Research in the UK in children aged 4 years who have a bad relationship with his mother, it has a chance 6 times developed into schizophrenia. However, there is no strong evidence that patterns in the family play an important role in causing schizophrenia.

### c. Diagnosis (PPDGJ -III)

The diagnosis of schizophrenia according to PPDGJ - III are as follows:

- a. Thought of echo, thought of insertion or thought withdrawal and thought of broadcasting;
- b. Supposition controlled (*delusion of control*), influenced delusion (*delusion of influence*) or *passivity* which clearly refers to the movement of the body or movement of limbs or thoughts, deeds or feeling (*sensation*), specifically; delusional perception.<sup>13</sup>
- c. A hallucinatory voice that constantly comments on the patient's behavior, or discusses the subject of the patient among themselves, or another type of hallucinatory sound coming from one part of the body;
- d. Stocks reside in other cultures whose culture is perceived as unnatural and utterly impossible, such as the identity of religion or politics, or the power and abilities of the "superhuman" (eg being able to control the weather, or communicating with aliens from other worlds);
- e. Hallucinations are settled in any modality, when accompanied either by delusions that half form without content affective clear, or the ideas of excessive (*overload ideas*) that persist, or if it happens every day for weeks or months continuously;
- f. Discontinuous or interpolated thoughts resulting in incoherent incoherence or talk or neologism;
- g. Catatonic behavior, such as rowdy agitated state (*excitement*), a certain body posture (*posturing*), or serea flexibility, negativism, mutism, and stupor;
- h. "Negative" phenomena such as grossly ignorant (apathetic) attitudes, stalled conversations, emotional or collusive emotions, usually lead to withdrawal from social intercourse and declining social performance, but it must be clear that they are not caused by depression or neuroleptic medication;
- i. A consistent and meaningful change in the overall quality of some oak asp individual behavior, bermani festasi as loss of interest, aimless, lazy attitude, reticence (*self - absorbed attitude*) and social withdrawal.<sup>13</sup>

### Diagnostic Guidelines

The normal requirement for the diagnosis of schizophrenia is that there should be at least one of the above obvious symptoms (and usually two or more symptoms if the symptoms are less sharp or

unclear) of symptoms belonging to one of the symptom groups (a) to (d) above, or at least two symptoms of groups (e) to (h) which must always be present clearly for a period of one month or more.<sup>13</sup>

### II .2 Definitions addiction

*Addiction* (addiction / addiction) or *dependence* (reliance) is a collection of behavior characterized centered between the decline to the inability to control drug use are naan are causing harm physic and psychic. The term addiction (addiction) and *substance dependence* (depending substances) are often used interchangeably. Drug addiction is a chronic relapse disorder, defined by the presence of etiologic symptoms, and the pathophysiology that moves from attempting drugs to abuse then addiction.<sup>14</sup>

### Canabinoid

Marijuana (cannabis, marijuana, hashish) including classes of addictive substances. Advantage as a medicine has been known since at least 5000 years ago in the land of C ina and later documented by Herodotus, a historian Yunani.<sup>15</sup>

The use of cannabis by inhalation, the highest levels in the plasma will be achieved within 10 minutes. The subjective and physiological effects occur within 20-30 minutes. Intoxication generally ends within 2-3 hours. When marijuana is ingested, its onset begins to appear within 0.5-1 hours, the peak blood level is achieved within 2-3 hours, and the effect ends within 8 hours.<sup>15</sup>

It remains unclear (controversy) is it true that chronic cannabis use cause psychosis because of marijuana and *amotivational syndrome*, or indeed pre-existing psychiatric disorders (*preexisting disorders*).<sup>15</sup>

### II .3 Epidemiology

K anabis is one of the psychoactive substances most commonly used in the world and has a bad reputation that is becoming the most popular illicit drug in the United States. From 2001 to 2003, se 3.7 Nineteen of the world's population (ages 15-64) reported ever having used cannabis marijuana<sup>16</sup> In Europe and the United States 17.6% of the age of 16 have used cannabis.<sup>10</sup> Not surprisingly, given the high number of people that cannabis use is highest evalensi of abuse of drugs in the context of schizophrenia. The number of investigators found high rates of marijuana use in schizophrenia patients (20% to 70%). Some of the first studies to document that this epic periode

expended from use of total drugs or abuse cause psychosis after a few years. Symptoms prodromal accounted for in one study in Germany of 232 patients with a first episode of psychosis found that 29.5% of those who use drugs  $\geq 1$  year before the first sign of psychotic appears<sup>17</sup>. Especially male cannabis users who average 6.9 years younger onset of schizophrenia than those not using.<sup>12</sup>

## II. 4 Relationship between cannabis marijuana with schizophrenia

Research Barnes and his colleagues in London found the incidence of early-onset psychosis were reported in patients who use substances.<sup>8</sup> And the patients were considered marijuana users here are patients who use marijuana more than 4 times a year.<sup>12</sup>

In some studies have found a relationship between the use of cannabis with schizophrenia. As with previous studies conducted by Veen and colleagues in 2004 in the Netherlands in the year with a large sample groups that have a history of cannabis use (group 1) were 55 with a combined standard deviation (group 1) 5.1 and sample group who do not have a history of cannabis use (group 2) as much as 37 with a standard deviation in the group that does not have a history of cannabis use (group 2) 8.9. And from it all in get a conclusion on who has a history of cannabis use male average 6.9 years younger attack schizophrenia than in men who do not have a history of cannabis use.<sup>12</sup> Age at onset when cannabis use is strongly associated with age at the onset of psychosis and the age of hospital care. Where this has also been adjusted by a factor of gender, age, family history of schizophrenia, and is associated with age of attacking users marijuana first time with the age when psychosis.<sup>18</sup>

Numerous studies have also found that the use of marijuana and other psychoactive substances associated with early onset of psychotic onset.<sup>19</sup>

One explanation for this is schizophrenia can be triggered by drug use, although it is unclear whether this effect is limited to those with a tendency to psychosis. Another explanation is that the onset of early symptoms is a risk factor for drug use. This hypothesis has been explored from previous studies by examining the temporal relationship between the attack of schizophrenia and drug users. The findings are not consistent, and generally only discusses the relationship between drug use and psychotic symptom attacking walking due prodromal symptoms. Nevertheless it, the relatively high proportion of patients who reported lifetime substance use in the study increases the likelihood of symptoms of the first episode, related substances, confounding estimates respectif

DUP (*duration of untreated psychosis*) and age at onset.<sup>8</sup>

There are five hypotheses about the relationship between marijuana use and schizophrenia:

### 1. *The self-medication hypothesis.*

Schizophrenia causes the use of marijuana for those who already suffer from schizophrenia, or symptoms, use of marijuana in an attempt to overcome the negative symptoms (depression or affective blunt) originating from schizophrenia. These people can also use marijuana in an attempt to suppress the side effects of antipsychotic drugs. *The self-medication* implying reverse causality hypothesis.

### 2. *Other drugs hypothesis*

Use of marijuana often accompanied by drug use other like amphetamines, opiates and cocaine, and not marijuana but other drugs that responsible for later onset schizophrenia.

### 3. *Confounding hypothesis*

Second use of marijuana and schizophrenia caused by one or more factors etiology. Relationship between usage marijuana and schizophrenia thus so false.

### 4. *Interaction hypothesis*

Use of marijuana can cause schizophrenia, but only on person which are already high risk schizophrenia. In other words, this guy personally in several ways susceptible (Genetic or vice versa) and use of marijuana only trigger incidence schizophrenia.

### 5. *Etiological hypothesis*

Use of marijuana make (Typical) contribution own to risk be schizophrenia<sup>10</sup>.

Interaction hypothesis show that users marijuana susceptible has risks higher be schizophrenic from on others who do not vulnerable. There is little doubt about vulnerability someone Where there is history psychosis, but this is clearly a small group and some people will consider themselves as susceptible in this sense. However, phenotype psychotic no only expressing himself within form the most Extreme - schizophrenia, but it can also manifest itself in symptoms psychotic single. It is an experience quite common with prevalence 17, 5% in the general population. Concept vulnerability can has a definition which is wider. On an annual basis, almost a quarter of the general population meet diagnostic criteria from one or another DSM -I axis diagnosis, and this tells us something about distribution vulnerability in the population. As such, vulnerability can be defined more narrow or way more area, but should be noted that definition which is wider not yet tested in study reviews. Debate about use

of marijuana and then schizophrenia therefore can benefit from study where effect dose - response are studied in variety level vulnerability.<sup>10</sup>

In all this we conclude that study last is the carrier message that contains six key elements:

1. Users of marijuana are about twice as likely to be schizophrenic.
2. Many young people expose themselves to this risk
3. Risk will be greater when more many cannabis used.
4. This risk is also greater in people "Vulnerable"
5. Vulnerability may be large, but it is difficult to recognize the characteristics
6. Even when the risk is numerically small, in the clinic it is serious.

This is the message. However, it will require a policy to formulate a health educational message that will produce the desired effect. Warnings can not help and may even be counter productive, but ignore the message five investigators late is not an option.<sup>10</sup> Many research results linking the biological pathway between the use marijuana psychosis, which showing possible influence range age of onset in the development of schizophrenia:<sup>18</sup>

1. Cannabis exogenous (marijuana) is highly soluble lipids that accumulate in fat tissue, where they will slowly be released back to the rest of the body, including the brain.
2. Exogenous and endogenous (*eg anandamide*) cannabinoid exert their effects (such as modulating the release of neurotransmitters, including glutamate, norepinephrine and dopamine) and interact with

## RESEARCH METHODS

### III .1. Research design

Desai n this research is a comparative analytic cross section, which aims to find differences in age of onset in the patient group.

Group I: The group of patients with schizophrenia for male who have a history use of marijuana

Group II: patients with schizophrenia group of men who do not have history of cannabis use

### III .2. Place and time

1. Place of research: Installation Outpatient Mental Hospital Suma tera Prof.dr.M.Ildrem Northern Province

certain cannabinoid (CB1 receptors) are distributed in an area of the brain (cortex, limbic, basal ganglia, and thalamus) thus engaging in the pathophysiology of schizophrenia

3. *Bimesolim* marijuana increases dopaminergic transmission and inhibits glutamatergic release.
4. Some studies showed increased CB1 brain areas (*prefrontal cortex* and *anterioor darsolateral cingulate cortex* cause schizophrenia, and increased canabi n oid endogenously in the blood and cerebrospinal fluid in patients schizophrenia.
5. Receptor CB1 gene variants associated with schizophrenia as well, and the risk of substance abuse in patients with schizophrenia, yet other studies have not found an association with risk of schizophrenia, and a recent meta-analysis does not involve this gene variants among 24 walking studies show significant effects.
6. The use of acute marijuana causes both patients and controls to have a temporary increase in cognitive impairment and schizophrenic patients with positive and negative symptoms.<sup>18</sup>

It can be said that six points above the weak argument for causal effects of cannabis accelerates the onset. For example, finding an increase in CB1 receptors in the area that can cause schizophrenia is not surprising because CBI receptors are relatively wide spread. However, some evidence supports a potential pathway is acceptable which focuses on two potential effects of cannabis on the age at onset of psychotic symptoms and age at onset prodormal even earlier.<sup>18</sup>

2. When the study: June 2015 - September 2015

### III .3. Population Research and samples

Researcher's target population are male schizophrenic patients. Affordable population is male schizophrenic patients who come for treatment at the Psychiatric Hospital Outpatient Installation Prof.dr.M.Ildrem North Sumatra Province in June - September 2015 The samples are set in a *non-probability sampling* in the form of *consecutive sampling*.

### III. 4. Estimates the amount of samples

The sample size was measured by using the formula:

$$n_1 = n_2 = 2 \left( \frac{(z\alpha - z\beta) S_g}{x_1 - x_2} \right)^2$$

$$(S_g)^2 = \frac{(s_1^2(n_1-1) + s_2^2(n_2-1))}{n_1 + n_2 - 2}$$

Information:

$n_1$  = Number of sample group 1 in a previous study sample size = group with a history of cannabis use = 55<sup>12 -21</sup>  
 $n_2$  = Number of sample group 2 on previous research = large sample of clogs without a history of cannabis use = 37<sup>12 -21</sup>

$s_1$  = Standard deviations in previous research group 1 = 5.1<sup>12 -21</sup>

$s_2$  = Standard deviations in previous research group 2 = 8.9<sup>12 -21</sup>

$S_g$  = composite raw intersection = 6.88

$Z\alpha$  = Devi at the raw alpha = type I error set at 5% = 1.64 hypothesis one direction

$Z\beta$  = Deviat the raw beta = a type II error is set at 20% = 0.84

$X_1 - X_2$  = minimal mean difference is considered significant = 5

$$(S_g)^2 = \frac{(s_1^2(n_1-1) + s_2^2(n_2-1))}{n_1 + n_2 - 2}$$

$$(S_g)^2 = \frac{(5,1^2(55-1) + 8,9^2(37-1))}{55 + 37 - 2}$$

$$(S_g)^2 = \sqrt{\frac{1404,5 + 2851,56}{90}}$$

$$(S_g)^2 = 6,88$$

$$n_1 = n_2 = 2 \left( \frac{(z\alpha + z\beta) S}{x_1 - x_2} \right)^2$$

$$n_1 = n_2 = 2 \left( \frac{(1,96 + 0,84) \cdot 6,88}{5} \right)^2$$

$$= 2 \left( \frac{(2,88) \cdot 6,88}{5} \right)^2 = 2 \cdot 14,844 = 29,68 \rightarrow 30$$

To make use of the formula above n obtained minimum sample size 30 people, and such an amount of samples with each group is 30 (male schizophrenic patients with a history of frequent users of marijuana an many as 30 people, and without a history of cannabis use 30 people).

### III. 5. Inclusion and exclusion criteria

#### Inclusion criteria

1. Patients schizophrenic male sex who are in the stable phase
2. schizophrenic patients diagnosed with schizophrenia based on PPDGJ-III and have stopped using marijuana for at least 1 year before being diagnosed with schizophrenia
3. Cooperative and can be interviewed and be willing to participate in the study.
4. Schizophrenic patients age between 15-55 years
5. Suffering from schizophrenic max imal 5 years
6. Understand the Indonesian language

### Criteria ex users

1. Patients who have a history of mental disorder anorganic.
2. Family history with schizophrenia

### III. 6. Ways of working

- Before do interviews, researchers more first entered approach to subject to be investigated by way of giving explanation about objectives and benefits and importance role and subject in help researchers get the desired data.
- Conducting structured interviews and s ubyek research will be given a questionnaire containing questions. Then subject research fill questionnaire the
- Number of questionnaires to be filled in accordance with the sample size of the study.
- After all questionnaire filled do data processing done editing, coding, tabulation and analysis of data.

### III. 7. Identify variables

- Variables in this research is: A history of cannabis use

- The dependent variables in this study are: Schizophrenic onset

### III. 9. Research subject's permission

All subjects will be asked for approval which is first given explanation before being followed include as a research subject.

#### III .1 0. Research ethics

This research has been getting ethitute study to the Ethics Committee Research Faculty of Medicine, University of North Sumatra, Medan.

#### III.11 Planning Data Management and Analysis

## CHAPTER IV RESULTS RESEARCH

### 4.1 Demographic Characteristics Subject Research

The study was followed by as many as 60 people with male-sex schizophrenia divided into two groups with backgrounds who have a history of marijuana use and who have no history of using marijuana with the number of each 30 people. The largest age group in the group with a history of marijuana usage was 26-35 years of age 11 (36.7%) and in the group with no history of marijuana users 36-45 years were 13 (43.3%). The highest level of secondary education in two groups, 13 people 43.3%

After the data is collected, data processing is done with the following stages: (1) Editing, is a step to examine the completeness of data obtained through interview, (2) Coding, is an attempt to classify existing answers by type, (3) Tabulation, is an activity of the research data into a table based on the variables studied. (4). Data analysis using *independent t-test* using *SPSS for windows*. And if it does not qualify the *independent t-test Mann Whitney U test*.

in the group who had a history of marijuana use and 17 people (56.7%) in the group who did not have a history of cannabis use. The majority of subjects in both groups did not work. 18 persons (60%) subjects with a history of marijuana use were unmarried and in the group with no history of marijuana usage of 13 people (43.3%).

More than half the subjects 18 People (60%) who have a history of using cannabis use  $\geq$  16 times / year with the last use of 1-5 years 17 persons (56.7%). In the group who had a history of marijuana use, first used marijuana with an average age of 21.07 years with an average use of 3.2 pc/ day.

**Table 4.1 Demographic Characteristics**

Demographic Characteristics	Subject with history as users marijuana (n = 30)	Subject with history as non users marijuana (n = 30)
Group of age, n (%)		
15-25	9 (30)	3 (10)
26-35	11 (36,7)	10 (33,3)
36-45	5 (16,7)	13 (43,3)
46-55	5 (16,7)	4 (13,3)
education, n (%)		
Junior high school	12 (40)	11 (36,7)
Senior high school	13 (43,3)	17 (56,7)
High Degrees	5 (16,7)	2 (6,7)
Occupation, n (%)		
Work	5 (16,7)	6 (20)
Not working	25 (83,3)	24 (80)
Marriage, n (%)		
Single	18 (60)	13 (43,3)
widower	2 (6,7)	5 (16,7)
Married	10 (33,3)	12 (40)
Frequency using marijuana, n (%)		
1.> 4 -<16 x/tahun	12 (40)	-
2.≥ 16 x/tahun	18 (60)	-



Last time using Marijuana, n (%)

1 – 5 year	17 (56,7)	-
> 5 year	13 (43,3)	-
Attack Marijuana, Average (SB), year	21,07 (4,96)	-
Total Users, Average (SB), pc/day	3,20 (1,45)	-

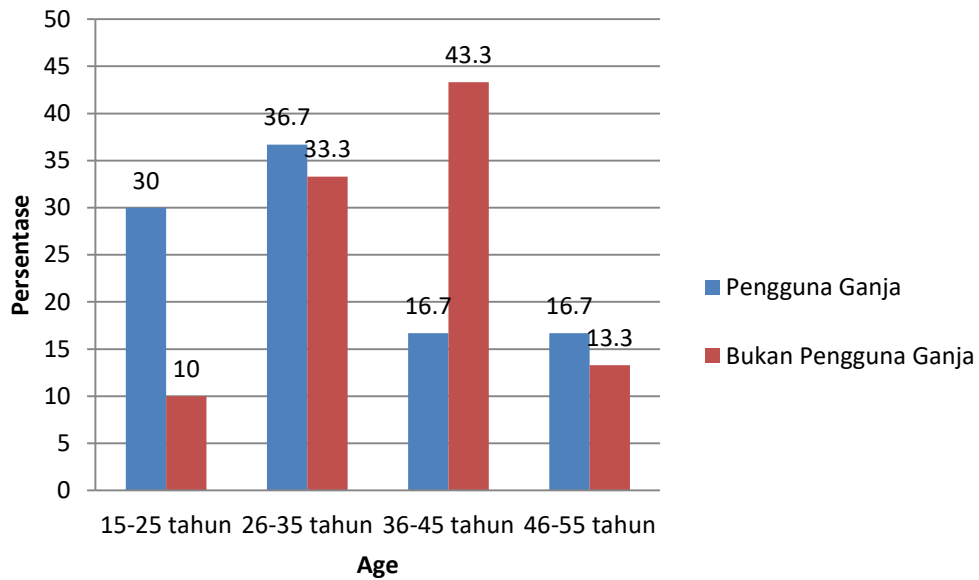


Figure 1. Proportional Bar charts that have and who do not have a cannabis User History by Age Group

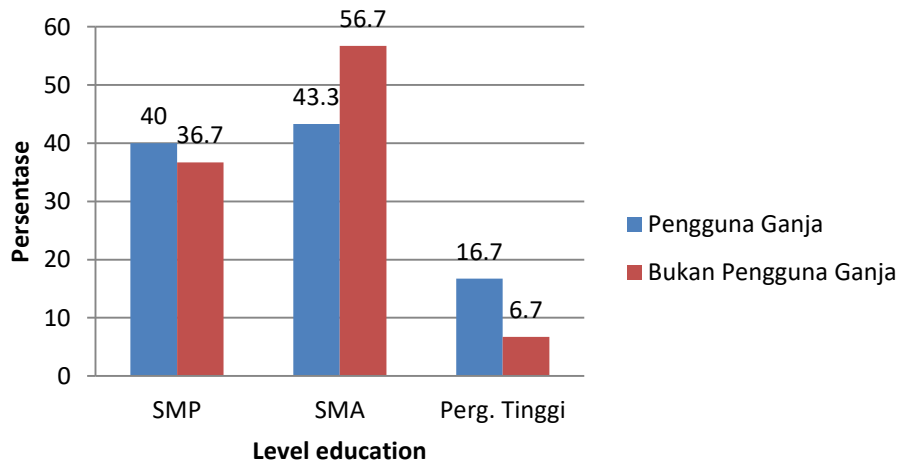


Figure 2. Bar chart The proportion between who owns and who has no Cannabis History based on Education Level

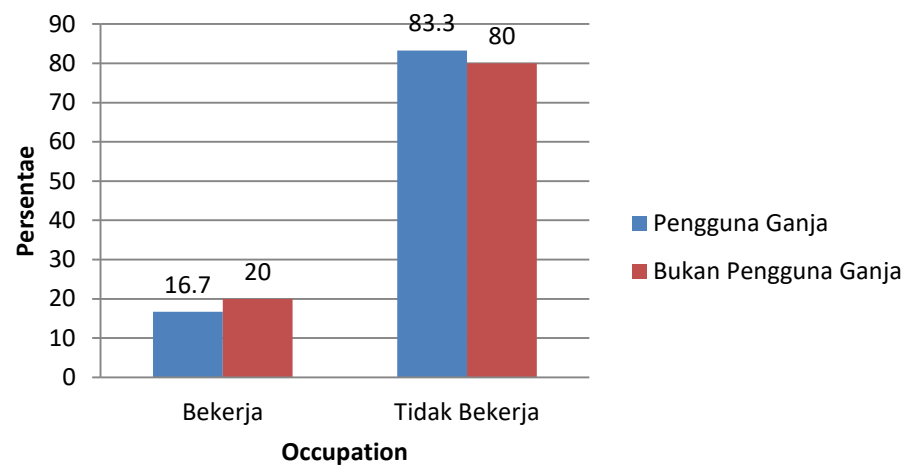


Figure 3. Bar chart The proportion between those who own and who do not have a Cannabis History of Usage by Employment Status

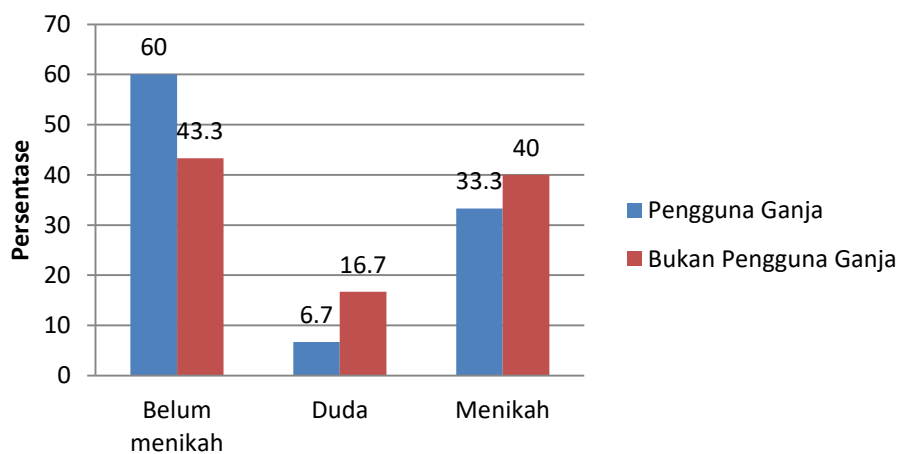


Figure 4. Bar chart The proportion between who owns and who does not have a Cannabis Used history based on Marital status

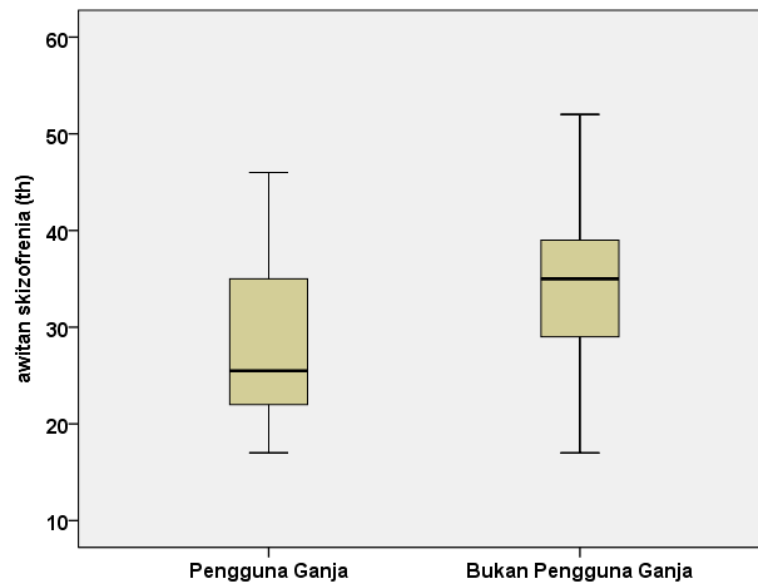
Table 4.2 Differences Initial Schizophrenia in Schizophrenic patients between men who have and who have no history of cannabis use

	Subject with history as users marijuana (n = 30) $\bar{X} \pm SD$	Subject with history as users marijuana (n = 30) $\bar{X} \pm SD$	p*
Schizophrenia	28,50±8,74	34,20±7,74	<b>0,008</b>

\*Mann Whitney u

The results of this study indicate that there is a significant difference in the onset of schizophrenia in schizophrenic patients between those who have and who have no history of marijuana use ( $p < 0.05$ ). Where the onset of schizophrenia in male schizophrenic patients who did not have a history of marijuana use was significantly different than that of

male schizophrenic patients who had a history of marijuana use ( $p < 0.008$ ). The average onset of schizophrenia in a group of male schizophrenic patients who did not have a history of cannabis use was 34.20 years while in the group with a history of 28.50 years of cannabis use.



**Figure 5. Initial Difference Schizophrenia between those who have and who do not have a Cannabis Marijuana History**

## CHAPTER V. DISCUSSION

This study was an unpaired numerical analytic study, with cross sectional approach, with a total of 60 people with male-sex schizophrenia in two background groups, 30 people with and 30 persons with no history of marijuana use, came to treatment at the plant outpatient BLUD Prof.dr. M.Ildrem North Sumatra Province. This research also applies inclusion factor and strict exclusion factor with sampling using non probability sampling technique, consecutive sampling type. The general aim of this study was to find out whether there were any adverse differences in male schizophrenic patients between those who had and who had no history of marijuana use.

Based on the demographic characteristics of the study samples, the highest age group in the male schizophrenic group with a history of marijuana users was 26-35 years, 11 (36.7%), and in the schizophrenic group who did not have a history of marijuana users age 36-45 years old totaled 13 people (43.3%). The educational rates of these two

groups were SMA, 13 people (43.3%) in the group with a history of ganja users, and 17 (56.7%) in the group with no history of marijuana use. The majority in both groups did not work, 25 people (83.3%) who had a history of marijuana use and 24 people (80%) who had no history of marijuana use. 18 persons (60%) who had a history of unmarried marijuana use and 13 people (43.3%) who had no history of marijuana use were unmarried.

On the characteristics of marijuana users found more than half of the subjects 18 people (60%) of cannabis users using marijuana  $\geq 16$  times / year with the last 1-5 years use as many as 17 people (56.7%). With the mean age of 21.07 years and the average use rate of 3.2 linting / hari.

The results of this study indicate that there is a significant difference in the onset of schizophrenia in schizophrenic patients between those who have and who have no history of marijuana use ( $p < 0.05$ ). Where the onset of schizophrenia in male schizophrenic patients who did not have a history of marijuana use was significantly different than that of

male schizophrenic patients who had a history of marijuana use ( $p < 0.008$ ). The average onset of schizophrenia in a group of male schizophrenic patients who did not have a history of cannabis use was 34.20 years while in the group with a history of 28.50 years of cannabis use.

This study is in accordance with a study conducted by Veen and colleagues in the Netherlands in 2004 which showed a significant association between marijuana use and the onset of schizophrenia, especially the association of the onset of the first psychotic onset of schizophrenia. Whereas in men who have a history of marijuana use an average of 6.9 years younger for onset of schizophrenia than in men who have no history of marijuana use.<sup>12</sup> This increases the evidence that cannabis can lead to schizophrenia, at least for those who are already vulnerable to developing this disorder according to Dean and Murray in 2005.<sup>20</sup>

This study is also in line with that done by Galvegg-buccollini and colleagues in Boston in 2012 where in several studies found a strong relationship between the use of cannabis with schizophrenia. onset when marijuana use is closely related to onset of onset of psychotic and onset of schizophrenia.<sup>18</sup>

According to a study conducted by Barnes and friends in London in 2006 also explained where the use of cannabis a risk factor for the onset of schizophrenia. Here it is reported that the use of marijuana in adolescence increases the risk for the onset of symptoms of schizophrenia in adulthood.<sup>8</sup>

According to Leberg and his friends in the United States in 2014 reported the possibility of developing psychosis and schizophrenia after the use of cannabis. Where the close relationship between cannabis use and the incidence of psychotic and schizophrenia is very specific compared to other mental disorders.<sup>11</sup>

The limitation of this study is that this study does not explain other factors that may cause susceptibility to schizophrenia. Like the relationship of schizophrenia with other substances or relationships with personality traits.

## CHAPTER VI CONCLUSIONS AND RECOMMENDATIONS

### VI.1. Conclusion

1. The mean onset of schizophrenia in a group of male schizophrenic patients who did not have a history of cannabis use was 34.20 years while in the group who had a history of using cannabis 28.50 years.

2. There was a significant difference in the onset of schizophrenia in male schizophrenic patients between those with and without a history of cannabis use ( $p = 0.008$ ).

### VI.2. Suggestion

1. From this study there is a significant association between onset of schizophrenia in schizophrenic patients who have a history of using marijuana faster than those who have no history of marijuana use, hereby patients, patients' families and the general public should be educated that cannabis use may play a role schizophrenic disorder.

2. It is desirable for the next author of this study to be a reference or the like to examine other factors related to the use of marijuana with risks of schizophrenia, especially the relationship with patient personality traits not discussed in this study.

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