

Psychosis and cannabis



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Introduction:

Cannabis is the most commonly used illicit drug in the UK with 31 per cent of male's ages 16 – 19 years and 24 per cent of females in the same age category using cannabis. 1 Cannabis is derived from the cannabis plant 'Cannabis Sativa.' There are about 400 chemical compounds in an average cannabis plant. The most active ingredient of the plant derivative is tetrahydrocannabinol (THC). The potency of this chemical is indicated by the fact that the average street sample of cannabis contains less than 5 THC. Some samples are considerably higher in THC content thus; effects from the drug vary according to its quality, meaning its THC content. The flowering parts of the plant contain the greatest amounts of THC. One type, skunk, can be particularly potent as it contains two to three time as much THC as other types. The newer varieties of cannabis are, on the whole, two or three times stronger than those were available 30 years ago. The recreational drug

cannabis comes in many forms: herbal, resin, powder and oil – and is known by many slang terms, including weed, pot, grass and hash. It is usually rolled into a cigarette known as a joint, but can also be smoked in a pipe, brewed as a tea or mixed with food. Cannabis was re-classified in January 2009 and is now a Class B drug under the Misuse of Drugs Act, 1971, and penalties for regularly being caught with the drug can be severe. 2 Users find the relaxing properties of cannabis comforting and encourage further use; however 1 in 10 cannabis users have unpleasant experiences, including confusion, hallucinations, anxiety and paranoia. 3 The same person may have either pleasant or unpleasant effects depending on their mood and circumstances. These feelings are usually only temporary – although as the drug can stay in the system for some weeks, yet these side effects very rarely act as a deterrent for users. Cannabis or its derivatives may also be used as a medical treatment. For instance, cannabis appears to be able to help reduce the side effects of chemotherapy treatment, although not more so than other already established medications. A report by the House of Lords Science and Technology Committee recommended the use of cannabis for medicinal purposes. However, the British Medical Association (BMA) did not give the report 100 per cent support and believes only cannabinoids – carefully identified chemical derivatives of the cannabis plant – should be used in medicine. 4 Although cannabis does not cause physiological dependence it can however cause psychological dependence. Cannabis does have some features of some addictive drugs such as tolerance – having to smoke more and more to get the same effect and withdrawal symptoms usually seen in heavier cannabis users. There is increasing evidence that the consumption of cannabis poses many health risks especially amongst adolescents (time where

the human brain is still developing) and in particular is frequently linked with the increased risk of mental illness (psychosis). The term “psychosis” refers to a medical condition that affects the mind in which there has been some loss of contact with reality. 5 The experience of psychosis varies greatly from person to person, so that individuals experiencing psychosis may well have different symptoms. A study by Sembhi & Lee (1999) estimated that as many as 86% of individuals who experience psychosis have experimented with cannabis at some point. 6 Psychosis affects an individual’s thoughts, feelings and behaviours and is quite a common medical condition that affects 3% of the population (affects men/women equally). One particular study that suggests using cannabis as a teenager or young adult increases the risk of psychosis was that carried out by Professor Jim van Os from Maastricht University in the Netherlands, and included researchers from the Netherlands, Germany, Switzerland and the UK. 7 They excluded anyone who reported cannabis use or pre-existing psychotic symptoms at the start of the study, which took place in Germany. The participants in the study, aged between 14 and 24, were assessed for cannabis use and psychotic symptoms at three points over a 10-year period. It found that cannabis use “significantly” increased the risk of psychotic symptoms, even when other factors such as socio-economic status, use of different drugs and other psychiatric conditions were taken into account.

Aims:

To investigate the effects of regular cannabis intake during adolescence and the occurrence of psychotic symptoms.

Research the effects of cannabis on people with towards predisposition of

Psychosis

To examine critically the evidence that cannabis causes psychosis using established criteria of causality.

Objectives:

To examine the evidence that cannabis use causes chronic psychotic disorders by using established criteria of causality. These criteria were defined by: biologic plausibility, strength of the interaction between the risk factor and the disease, reliability of the results, temporal sequence between the exposure to the risk factor and the beginning of the disease and existence of a dose-effect relationship.

Null hypothesis: There is no association between the onset of psychotic symptoms during adolescence due to the regular intake of cannabis.

Alternative hypothesis: Regular cannabis intake during adolescence results in the onset of psychotic symptoms.

Methodology:

In order to establish whether there is any association between the regular intake of cannabis and the development of psychotic symptoms in adolescence, this report aims to analyse data that has been collected using quantitative methods and then published in research articles. Quantitative methods will prove the most reliable and obtain the best results as analysing statistics and data gained from experiments will provide particular estimates to either support or reject my hypothesis, however the conclusions that can be drawn from previous quantitative research in this area are limited. The sample frame for these particular studies will all include adolescents range

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(12yrs – 24yrs) and the majority of subjects in most studies are male, the limitations of this is that many of these studies are quite old and do not give a true representation of society today seeing that many more females smoke cannabis than they did in previous years. In this case qualitative research will provide richer detail and present valuable information than perhaps any other method would do; qualitative methods may include observations over several years, or focus groups, information obtained may well complement quantitative data. The use of qualitative methods provides the possibility for the exploration of personal meaning of experiences in a way that the use of predetermined categories does not. Published and unpublished articles identified through computerised searches of the following electronic databases will also be examined, some of these include: Science Direct, PubMed, PsychInfo and ISI Web of Knowledge (ISI Web of Science and ISI Proceedings). There are ample amounts of information found on the internet; looking at all the information would prove difficult. In this case “ key words” are necessary in order to gain a range of information, some examples of key terms that may be used when carrying out a Web search/ locating studies are: (CANNABIS) or (CANNABIS USE) or

(MARIJUANA) or (HASHISH) or (HASH) or (GANJA) combined with (PSYCHOTIC), (PSYCHOSIS) and (SCHIZOPHRENIA). The following health organisations may also prove useful: World Health Organisation (WHO), British Medical Association (BMA) and UK Public Health Association (UKPHA). Other sources that may provide evidence are journals or published books that can be found in the library, Psychologybooks that cover psychosis in particular; schizophrenia will supply me with an insight into people with a

biological predisposition towards schizophrenia and how their risks significantly increase by using cannabis.

Inclusion exclusion criteria

Inclusion criteria are the standards used to determine whether a person may be allowed to participate in a clinical trial. Participating subjects English speaking, both male and female, aged 12 years to 24 years. Participants who have used cannabis in the past, as well as current cannabis users will be included. Participants will not be excluded on the basis of being poly drug users.

Exclusion criteria: Subject with other medical conditions (serious neurological/medical disorder), using any medication, or have a predisposition towards psychosis. Other exclusion criteria includes, serious risk of self harm to self or others, mental retardation IQ (<70 with functional impairment). Any individuals that have experienced childhood trauma before the age of 12 years will be excluded and also any individuals with a lifetime presence of any psychotic symptoms.

Risk Assessment:

As this project is going to be a dissertation, there are not as many risks involved as there would be in performing a practical. The risks which I need to take into account are the ones involved with spending long hours on a computer and sitting in a single place for hours on end. The risks that I need to be aware of are as follows:

General- Wires and other tripping hazards (if I am going to be around electricals e. g. computers)

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Adjustable lighting for comfort and to reduce eye strain

No flickering lights as this could cause migraines and headaches

Well lit room if I am going to be reading large amounts of texts

Comfortable working temperature (16-20°C)

Adequate ventilation to avoid overheating and dehydrating

Plenty of refreshments to maintain hydration and focus

Windows should have blinds/ curtains

Enough space to move around to help blood flow

Perform finger stretching exercise, move wrists and stretch legs frequently

Personal- Desk at the right height to avoid back pains and discomfort

- Enough leg room to avoid jet lag

- Use a foot rest if necessary

- Ensure desk has enough space for equipment/ books and papers

- Ensure chair is stable and fully adjustable

Computer- Ensure monitor can be tilted in all direction to avoid eye strain
neck pain

Make sure screen is clear and readable

Use a glare filter if required for the screen

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Make sure monitor's brightness and contrast can be adjusted

Ensure keyboard is adjustable, clear clearly visible and non reflective

Ensure enough space to rest the arms and wrist to avoid repetitive strain injury
Ensure software is suitable for the task

Statistical Analysis and data presentation:

As this is not an experiment but rather a research based dissertation there is not much numerical data to be collected. I will gain information displayed in bar charts or pie charts to show the number of adolescents smoking cannabis in today's society compared to previous years. I would produce a bar chart on how cannabis smoking amongst adolescents has changed over the past ten years, and extrapolate the graph (Drawn by hand) to estimate what the figures of adolescents smoking cannabis will be in a few years (if applicable). I will also try gaining figures on how much the government spends on prevention methods, public awareness and rehabilitation centres and how that has changed over the last ten years and extrapolate the graph (Drawn by hand) to see how much it could go up/ down to in the years to come.

Examples of some of the statistical techniques I may use are: correlation to compare to variables (smoking cannabis as an adolescent and the development of psychotic symptoms). From the results, tables etc I will discuss any patterns that have emerged and compare these to findings of other published articles. A Metasynthesis approach will be employed.

Metasynthesis can be described as a process of blending a group of qualitative studies in order to discover the common essence and is thought to promote fuller knowledge of the subject area. I would gather information

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on the number of adolescents that smoke cannabis and compare them to UK figures.

COSHH:

See form attached

Timeline:

May- June = Research the definitions of psychosis/ and the different types of cannabis available (potencyls there a higher risk?).

June- July = Research the affect of cannabis on the brain and the body, importance of adolescent years.

July-Aug= Study published literature in research articles/studies

Aug-Sep = Gain information on Law's, prevention rehabilitation centres, NHS

Sep-Oct = Gain information on statistics e. g. cannabis smoking habits, other countries – Amsterdam, number of adolescents

Oct-Nov = Research methods of past cannabis smoking trends (common amongst hippies 60's) how attitudes have changed

Nov-Dec= Work out by analysing data and discussing data, things such as the time public opinion will change etc, prove hypothesis/ null hypothesis

Dec-Jan = Formal write up first draft

Jan-Feb = Formal write up second draft and hand in

References:

<http://www.statistics.gov.uk/cci/nugget.asp?id=719>

http://www.bbc.co.uk/health/emotional_health/addictions/cannabis.shtml

<http://www.rcpsych.ac.uk/mentalhealthinfo/problems/alcoholanddrugs/cannabis.aspx>

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<http://www.cannabisandpsychosis.ca/index.php?id=32>

Sembhi, S. & Lee, J. W. Y. (1999) Cannabis use in psychotic patients.

Australian and New Zealand Journal of Psychiatry, 33, 529 –532.

BMJ-British Medical Journal (2011, March 3). Cannabis use precedes the onset of psychotic symptoms in young people