

Studies on Cannabis and Schizophrenia in Sweden

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It is an honour and a great pleasure for me to be invited again to your important symposia in the Zürich area.¹ Drug problems occur in most countries, and the increasing openness over borders and between countries are in one way something very promising and stimulating, but unfortunately this freedom can be abused. There is an old Swedish proverb saying about that "Freedom is the best thing, for the one who really can cope with it". Can we apply freedom regarding dependence-producing drugs?

Some Epidemiology

In most countries cannabis is after alcohol the commonest dependence-producing drug. In Sweden, after decades of a decrease in drug abuse since 1970 with a frequency around 15 percent, we have seen a new increase after 1993 in military conscripts, from 6 to 12 percent.² Its use has varied. In Sweden we have for example several studies going on regarding alcohol and drug habits in students and in medical staff. In one medical faculty, about 700 medical students were asked to fill a form regarding alcohol and drug habits.³ It was found that about 12 percent were considered to use alcohol in the risk range, and 7 percent had used illegal drugs during the last year, obviously cannabis in about nine tenths of the cases. What this means can of course be discussed. In traditional Swedish groups, the figures are considered to be very high. When I showed the data to an American professor, he

1 Rydberg, U., Adamsson, C., Allebeck, P., Andreasson, S., Engstrom, A., "Cannabis and Schizophrenia – Is this a Casual Association?" in: *I. International Symposium against Drugs in Switzerland*, Zürich 1991, p. 517-524.

2 *Rapport 96 – Alkohol- och narkotikautvecklingen i Sverige*, Institute of Public Health and Swedish Council on Alcohol and Drug Education, Stockholm 1996.

3 Borschos, B., Kuhlhorn, E., *Medicinarna och alkoholen*, Manuscript 1997.

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said that they were relatively low, as compared to American data. We knew that before.

Some Clinical Data

I have earlier reported from the Unit for treatment of drug addicts at Huddinge University Hospital, where I was earlier the head.⁴ During 1996, in the outpatient unit 245 out of 1686 consultations (15 percent) were due to a pure cannabis diagnosis.⁵ Polydrug abuse including cannabis also occurred. 31 percent of the patients also received another psychiatric diagnosis as main diagnosis – a figure which has increased over the years.

Comorbidity Projects

I myself have nowadays a different working position, so for me personally it is rare that I see patients with cannabis abuse without or with other psychiatric complications. However, a few weeks ago we were able to open a new rehabilitation centre, a halfway house for persons with a comorbidity problem, both dependence and another psychiatric problem. In Sweden we have had a state committee on psychiatric problems, and among other things they identified the big problem with patients dependent on alcohol and/or a drug as also having another psychiatric diagnosis. For 3 years, about 8 million francs (45 million Swedish crowns) were allotted to the projects. The amount was divided into 10 parts. Together with the town of Sundbyberg with about 32,000 inhabitants, we at the Magnus Huss clinic received the largest grant (3x3 million Swedish crowns) for 3 years for investigating the frequency of such patients, intense clinical, psychological investigations including neurochemistry etc. Dr. Markus Heilig, Asso-

4 Engstrom, A., Allebeck, P., Rodvall, Y., Rydberg, U., "Adverse psychic effects of cannabis – with special issue to the situation in Sweden", in: D. J. Harvey, W. Paton, G. G. Nahas (eds.), *Maribhuana 84 – Proceedings of the Oxford Symposium on Cannabis*, IRL Press 1984, pp. 593-604.

5 Mann, C. et al., *Verksamhetsberattelse 1996*, Narkomanvhrds-mottagningen M 77, Huddinge sjukhus.

ciate Professor and Tomas Moberg⁶ run the project, and I am a member of a steering committee. We have identified that such patients have been treated in at least 8 different settings only for that town of about 50,000 inhabitants. The psychopathology varies widely. Dr. Agneta Ojehagen, Associate Professor, Lund is adviser to the whole project. It is obvious that the expectations of the investigating team are widely different for the different participating clinics, social workers etc. To work with psychically ill patients, including those with a cannabis abuse, is a demanding task.

“Swedish Prospective Studies”

I will also refer to our prospective study on the specific association between cannabis and schizophrenia.⁷ 45,570 conscripts were studied in retrospect over a 15-year period, and some base data were already available, which were completed. The relative risk of developing schizophrenia was 2.4 for cannabis users compared to non-users at time of conscription, and 6.0 for heavy users. We pointed out clearly that statistical association is not the same as a causal one.

Later we studied a subsample of cases of schizophrenia from the original cohort.⁸ Though the results were quite striking, we pointed out that the case notes did not contain enough detail to fully exclude the use of other drugs nor that there could be a deviant premorbid personality or a more deprived social background.

In a study of the same cohort of military conscripts performed by Andreasson and Allebeck,⁹ an increased proportion of deaths by suicides was reported among heavy cannabis users. I have observed such cases myself. However, other studies from other countries have not found any increase in depression in cannabis users. The population may

6 *Report 1997*, in prep.

7 Andreasson, S., Allebeck, P., Engstrom, A., Rydberg, U., “Cannabis and schizophrenia. A longitudinal study on Swedish conscripts”, *Lancet* 1987, 1, 483-86.

8 Andreasson, S., Allebeck, P., Rydberg, U., “Schizophrenia in users and nonusers of cannabis”, *Acta psychiatr scand*, 1989, 79, 505-10.

9 Andreasson, S., Allebeck, P., “Cannabis and mortality among young men: a longitudinal study of Swedish conscripts”, *Scand J Soc Med*, 1990, 18, 9-15.



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vary. In Sweden, Fugelstad and Rajs have been very interested in the mortality in cannabis users, but some of their data is hard to interpret.

Study on Comorbid Patients

A sample of 229 patients could be identified who were treated in Stockholm county for both a diagnosis of cannabis dependence and a diagnosis of psychosis.¹⁰ A longitudinal design and a population-based

10 Allebeck, P., Adamsson, C., Engstrom, A., Rydberg, U., "Cannabis and schizophrenia: a longitudinal study of cases treated in Stockholm County", *Acta psychiatr scand*, 1993, 88, 21-24.

register of psychiatric care were used to assess all cases of psychosis among people who also had been given a diagnosis of cannabis dependence, but we were not able to perform a real cohort study or a case-control study. 112 patients were classified as schizophrenics and 117 as nonschizophrenics. The schizophrenic patients had a significantly higher utilisation of hospital care than the nonschizophrenics. The mean number of days in inpatient hospital care was 903 days for the schizophrenics and 216 days for the nonschizophrenics. Thus the states were long-standing.

There is some evidence that persons with schizophrenia or other mental disorders are more prone to use cannabis. In most of our cases, regular cannabis abuse preceded psychosis by at least one year, which supports the argument that cannabis is a risk factor for schizophrenia and not the other way round. Cannabis-associated schizophrenia often has a sudden onset and prominent positive symptoms.¹¹

Swedish Cannabis Reports

In Sweden we have also had major meetings on cannabis, one in 1984. At that time, the Nordic Council on Alcohol and Drug Research (NAD) gathered a group of experts to write a Nordic evaluation of medical disorders related to cannabis.¹² A report was written in two versions, one more extensive and one brief (38 pages). In 1993, a symposium on cannabis was arranged at the Annual convention of the Swedish Society of Medical Sciences¹³ and the Swedish Institute on Public Health arranged a cannabis symposium, with the presence for example of Professors Mechoulam (Israel) and Negrete (Canada). A summary was published in Swedish.

11 Ibidem.

12 Tunving, K. et al, *Cannabis och medicinska skador*, Kort sammanfattning, NAD-publikation 1984, no 9, 38 pp.

13 Rydberg, U., Alling, C., Beck, O., Lundqvist, T., Andreasson, S., "Cannabis och cannabismissbruk – nyare kliniska erfarenheter av en gammal drog", *Svenska Lakarsällskapets Riksstamma*, 1993, 102, 379.

Conclusions

Cannabis is a real problem. Its role in traffic safety needs to be better elucidated. Especially in those who are vulnerable, and are prone to psychic disorder, the exposure to cannabis means a real risk. However, the statistical relationship between cannabis exposure and the development of schizophrenia can consist of different kinds of pathogenesis.