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Cannabis and schizophrenia: model projections of the impact of the rise in cannabis use on historical and future trends in schizophrenia in England and Wales.

Hickman M, Vickerman P, Macleod J, Kirkbride J, Jones PB.

Social Medicine, University of Bristol, Canynge Hall, Whiteladies Road, Bristol, UK. matthew.hickman@bristol.ac.uk

Abstract

AIMS: To estimate long-term trends in cannabis use and projections of schizophrenia assuming a causal relation between cannabis use and schizophrenia.

METHODS: Trends in cannabis use were estimated from a national survey, 2003; and incidence of schizophrenia was derived from surveys in three English cities, 1997-99. A difference equation cohort model was fitted against estimates of schizophrenia incidence, trends in cannabis exposure and assumptions on association between cannabis and schizophrenia. The model projects trends in schizophrenia incidence, prevalence and attributable fraction of cannabis induced schizophrenia.

RESULTS: Between 1970 and 2002 cannabis exposure increased: incidence by fourfold; period prevalence by 10-fold; and use among under 18-year-olds by 18-fold. In 1997-99 incidence and prevalence of schizophrenia were 17 per 100 000 and 0.63% among men and 7.3 per 100 000 and 0.23% among women, respectively. If cannabis use causes schizophrenia, earlier increases in cannabis use would lead to increases in overall schizophrenia incidence and prevalence of 29% and 12% among men between 1990 and 2010. By 2010 model projections which assume an association between schizophrenia and light and heavy users suggest that approximately one-quarter of new schizophrenia cases could be due to cannabis, whereas if the association is twofold and confined to heavy cannabis users, then approximately 10% of schizophrenia cases may be due to cannabis.

CONCLUSIONS: If cannabis use causes schizophrenia, and assuming other causes are unchanged, then relatively substantial increases in both prevalence and incidence of schizophrenia should be apparent by 2010. More accurate data on cannabis consumption and future monitoring of schizophrenia are critical.

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[Projecting the impact of changes in cannabis use upon schizophrenia in England and Wales: the role of assumptions and balance in framing an evidence-based cannabis policy.](#) [Addiction. 2007]

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