35.3 CHILDHOOD EXPOSURE TO GREEN SPACE – A NOVEL RISK-DECREASING MECHANISM FOR SCHIZOPHRENIA?

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Background: Schizophrenia risk has been linked to urbanization but the underlying mechanistic link remains unknown. Less green space in urbanized areas, where schizophrenia risk is high, could point to green space as an important factor. Green space is hypothesized to positively influence mental health and could mediate schizophrenia risk through noise and particle pollution removal, stress relief or other unknown mechanisms. However, the effect of green space on schizophrenia risk has not been disentangled from that of urbanization and it is unclear if different measures of green space associate differently with risk.

Methods: We used satellite data from the Landsat program to quantify green space for Denmark in 30 × 30m resolution for the years 1985–2013. The effect of quantity and heterogeneity of green space and urbanization at place of residence on schizophrenia risk was estimated using cox regression from a longitudinal population-based sample of the Danish population (943 027 persons). Schizophrenia risk was controlled for a range of individual and socioeconomic characteristics that may confound the effect of green space including age, sex and parental education, salary, and employment status.

Results: Living at the lowest amount of green space was associated with a 1.52-fold increased risk of developing schizophrenia compared to persons living at the highest level of green space. This association remained after adjusting for known risk factors for schizophrenia: urbanization, age, sex, and socioeconomic status. The strongest protective association was observed during the earliest childhood years and closest to place of residence.

Discussion: We found green space to decrease schizophrenia risk independent of urbanization - consequently pointing to green space as a new environmental risk factor for schizophrenia development. This study supports findings from other studies highlighting the natural environment as an important factor for human health, and points to a new methodological framework that combines epidemiological studies with big data approaches.

35.4 A PUBLIC HEALTH APPROACH TO THE PREVENTION OF PSYCHOSIS

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Background: The main attempt to prevent the development of psychosis has been through clinics for people at clinical high risk. Such an approach is useful for research but can never reach the majority of individuals who will become psychotic. Biological markers could be used to identify individuals with unusual vulnerabilities e.g. those with copy number variations such as VCFS. However, identifying the with such markers is unlikely to impact on the majority of cases, and as yet no useful interventions are available. How therefore to prevent psychosis?

Methods: Data will be presented from 3 studies of first onset psychosis (FEP) which used similar methods of ascertainment and assessment of cases and controls; AESOP and GAP from South London and the EU-GEI across 16 sites in 5 European countries.

Results: The identified risk factors for psychosis were the polygenic risk score for schizophrenia, childhood abuse, living in a city, being from an ethnic minority, drug abuse, adverse life events. Clearly, reducing some of

these (e.g. urbanicity or migration) is not within the powers of psychiatrists. The GAP study showed that the polygenic risk score accounted for the greatest variance in caseness; those with scores in the highest quintile were 7 times more likely to be a psychotic case than those in those lowest quintile. The GAP study also gave estimates of the population attributable fraction (PAF): these indicated that if no one was exposed to child abuse and use of high potency cannabis, then 16% and 24% respectively of psychosis in South London could be prevented. The EU-GEI study showed striking differences in the incidence of psychosis between Northern and Southern Europe; data will be prevented concerning the contribution of risk factors, especially cannabis use, to this.

Discussion: The knowledge that schizophrenia is the extreme of a continuum of psychosis has important implications for prevention. Preventive approaches to hypertension or obesity do not focus on identifying individuals carrying biological markers; rather they encourage members of the general population to take exercise and reduce their calorie intake. A similar approach should be adopted for psychosis. In the long-term attempts to reduce risk factors should be made e.g. addressing psychotogenic aspects of city living or by decreasing discrimination of ethnic minorities. This will be difficult. However, an obvious place to start is by attempting to influence society's patterns of consumption of high-potency cannabis. Unfortunately, public policy in the US and certain other countries appears to be moving in the opposite direction with increases in consumption and potency. Are these countries sleep-walking to more psychosis?

Plenary

36. INVESTING IN RECOVERY – AN ECONOMIC AS WELL AS MORAL IMPERATIVE

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Overall Abstract: 'Recovery' is a key concept in mental health policy around the globe. The World Health Organization has called for 'a recovery-based approach that puts the emphasis on supporting individuals with mental disorders and psychosocial disabilities to achieve their own aspirations and goals'. Investing in evidence-based actions to help foster recovery should therefore be core to any system of support for anyone experiencing schizophrenia or other severe mental health problems. While there is clearly a moral imperative to maximise opportunities for recovery, the economic case for action can also be compelling and complementary. However, the opportunity to make an economic argument to support investment in recovery is not always taken, and even when made it is often too narrow in ambition and scope to have a major influence policy and practice. This presentation will highlight examples of the economic potential of recovery-focused services in health, employment, education and housing services. It will look at strengths and weaknesses in the way in which economic evidence is presented to policy makers, including the extent to which implementation challenges have been considered. It will argue that in making the economic case for recovery it is just as vital to look at the role of the messenger as well as the message that is being communicated.

Plenary

37. THE GUT MICROBIOME: A KEY REGULATOR OF NEURODEVELOPMENT AND BEHAVIOUR

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Overall Abstract: The brain-gut-microbiota axis is emerging as a research area of increasing interest for those investigating the biological and physiological basis of neurodevelopmental, age-related and neurodegenerative disorders.