Synopsis no.: S2.10

Preliminary title:

Individual level determinants of high rates of psychosis in urban areas and minority ethnic groups: Findings from the multi-centre EU-GEI study

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Publication category: 2

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Work Packages involved: WP2

Partners involved from whom candidate co-authors (*additional to working and writing group*) should be nominated:

Objectives (scientific background, hypothesis, methods, and expected results):

Background

It is well established that rates of psychosis (especially schizophrenia) are higher in urban (more densely populated) areas and among some migrant and minority ethnic populations. The reasons for these variations are, as yet, not well understood. Speculation has focused on socio-environmental factors operating at both area and individual levels. There is developing evidence for each of these (e.g., at area level: social fragmentation, ethnic density; at individual level: discrimination, markers of social disadvantage (broadly defined) in childhood and adulthood).

At an individual level, risk factors that are more common, or have a greater impact, in urban areas and among minority groups potentially contribute to the higher observed rates.

Candidate individual level environmental factors that may be important include:

a) social position (i.e., markers of position within the social structure; e.g., employment and social class (economic), education (status) and income (material resources))

b) social isolation (e.g., living alone, single, and limited social networks)

c) negative social experiences (e.g., discrimination, life events and difficulties, trauma, bullying, etc.)

d) non-social environmental exposures (e.g., cannabis use)

A key question is whether particular types of negative social experiences are important. For example, it

has been suggested that exposure to social defeat (humiliation, exclusion) underlies the high rates in minority ethnic groups. An alternative is that it is exposure threat, hostility and intrusion that is important.

A further issue is timing of exposure. In so far as psychoses are widely considered to be developmental disorders, the questions arise of whether exposures in childhood are more important than in adulthood and of how exposures combine over time in particular contexts or among certain populations to push more along pathways to disorder.

Aim

The overall aims of these analyses are to examine whether, in urban areas and in minority ethnic groups, candidate individual level environmental factors a) have a stronger impact, and/or b) are more common.

Hypotheses

To a certain extent, the proposed analyses are exploratory in taking a relatively large number of candidate exposures and testing whether they either have a stronger effect or are more common in urban areas and minority groups. For each exposure, there are (as already clearly implied) two hypotheses:

1) the effect of each exposure on odds of psychosis will be stronger in those from urban areas and those from the main minority ethnic groups

2) the prevalence of each exposure will be higher in urban and minority ethnic controls than in rural and majority ethnic controls

As indicated in the background, there are some ideas about which types of exposure will be most relevant, especially at the level of social experience. Hypotheses can be derived from this, e.g.:

3) Negative social experiences that can be characterised as humiliating or exclusionary will be most strongly associated with psychosis in minority groups

Or

4) Negative social experiences that can be characterised as threatening or intrusive will be most strongly associated with psychosis in urban areas and in minority groups

Similar hypotheses could be framed concerning childhood (vs. adult) exposures.

Methods

WP2 case-control data will be used to test these hypotheses.

Detailed information has been collected on a wide range of environmental exposures, both in childhood and adulthood, that span those all those speculated to be involved in increasing rates in urban areas and minority groups: i.e., employment, social class, income, education, living circumstances, relationship status, and experiences of discrimination, negative life events, childhood adversities including family breakdown, abuse and bullying, etc.

In addition, data has been collected on the following a priori confounders: age, gender, premorbid function, IQ and family history of mental disorder (or psychosis).

Expected Results

See hypotheses

Data needed for the study:

- Case-control status
- MRC Sociodemographic Schedule Parts 1 and 2
- Childhood Experiences of Care and Abuse
- Childhood Trauma Questionnaire
- List of Threatening Experiences
- Discrimination Questionnaire
- Cannabis Experiences Questionnaire
- Premorbid Adjustment Scale
- WAIS (IQ)
- Family Interview for Genetic Studies

Plan for statistical analysis (overall strategy):

There will be two main parts to the analyses.

1) We will test whether associations between each candidate exposure and case-control status are stronger in urban areas and in the main minority ethnic groups, first, by stratifying the data and testing for homogeneity of odds ratios and, second, by fitting relevant interaction terms to logistic regression models and testing model fit using likelihood ratio tests.

2) We will examine whether exposures are more common in urban areas and/or minority ethnic groups by simply comparing the prevalence of each exposure by urban/rural and non-minority/minority in control samples, using chi-square tests and odds ratios (estimated using logistic regression).

The analyses will produce a list of exposures (at the level of markers of social position, isolation etc and of social experience) for which there is evidence that they either have a stronger effect and/or are more common in urban areas and minority groups. This will allow examination of a) whether relevant exposures occur more often in childhood or adulthood or both and b) whether there is any discernible pattern to the types of negative experiences identified (i.e., whether of defeat or of threat and intrusion).

[An alternative to the above (and perhaps a more efficient approach) is to use odds ratios for associations between case-control status and both urban area and minority group to approximate incidence rate ratios, and to then adjust these estimated ORs for the candidate exposures to see if they account for the excess odds. This carries a number of assumptions that may not be met (e.g., that proportions of controls from urban areas and ethnic groups reflects the general population distribution). These may be easier to meet in relation to ethnicity than urbanicity, though weighting of data could also be used to ensure ORs more closely approximate IRs.]

Other analyses/methods:

None

Involvement of external Parties (non EU-GEI):

None

IPR check:

Timeframe:

3 months from completion of core papers on incidence rates and on main effects of childhood adversity(s), life events and cannabis use

Additional comments:

There are two key issues:

1) Whether analyses in relation to urbanicity and ethnicity comprise one or two papers

2) Whether all WP2 sites or only a selection (e.g., with clear urban/rural areas and with large enough numbers in minority groups) are included