Synopsis no.: S2.20

Preliminary title:
Association between child abuse, cognitive impairment, and school attainment in first-episode of psychosis patients and population controls

Contact info for the person(s) proposing the synopsis

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Publication category:
2. Publications from work from a single Work Package, involving ALL Parties in the Work Package (secondary analysis)

Working and writing group:
Senior scientists: Craig Morgan, Robin Murray
Younger scientists: Lucia Sideli, Rachele Sartorio, Giada Tripoli, other authors?

Work Packages involved:
WP2

Partners involved from whom candidate co-authors (*additional to working and writing group*) should be nominated:
Helen Fisher, Marta Di Forti, Daniele La Barbera, other authors?

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

Scientific background:
Findings from the general population suggest that childhood abuse and neglect are associated with cognitive impairment and worse academic performance in childhood and adulthood (Perez, Widom 1994; Mills et al., 2011). Research that analysed the impact of specific types of maltreatment showed that, with few exceptions (Leiter and Johnsen, 1997), neglect has a higher or at least similar effect than abuse on school performance and cognitive functions (Perez and Widom, 1994, Mills et al., 2011). In addition, physical abuse predicts educational and neuropsychological measures better than sexual abuse (Eckenrode et al., 1993, Pears et al., 2008).
To date, three cross-sectional studies on schizophrenia and bipolar disorder reported an association of sexual abuse with impaired executive function, working memory, and mental speed (Lysaker et al., 2001; Shannon et al., 2011; Savitz et al., 2007), while another found no relationship with cognitive measures except with a task of visual processing (Schenkel et al., 2005). Furthermore, of three case-control studies, two showed that early separation, loss, and trauma broadly affect neuropsychological functions in first-episode psychosis (FEP) patients (Aas et al., 2012, 2011), while according to another the association was only limited to the control group (Sideli et al, 2013).

Hypothesis:
We hypothesise that child neglect and abuse will affect cognitive performance and educational achievement of participants, and that this effect will be stronger among cases than controls suggesting a possible psychopathological pathway between early adversities and psychosis.

Methods:
- Physical abuse, sexual abuse, and physical neglect will be assessed using the CECA questionnaire and interview. To reduce the risk for false positive, only abuse with moderate to severe experience of abuse will be considered. In addition to specific adversities, a further dichotomous variable will be computed to assess the experience of any abuse or neglect;

- Highest level of education achieved and years spent in education will be identified using the I part of the MRC socio demographic;
- General intellectual ability will be assessed using an abbreviated version of the WAIS-III including the Arithmetics, Information, Block design, and Digit symbol subtest. Full scale IQ and the four subtest score will be calculated. These five measure will be converted in standardised z scores on the basis of the performance of the control group.
If any of these measures will not be normally distributed, appropriate transformations will be applied.

Expected results:
In light of the previous literature we expect that physical neglect, physical abuse, and to less extent sexual abuse, will be associated with lower educational achievement and lower IQ. These associations will be stronger in cases than controls and will be robust to adjustment for confounders (including family history for psychosis and family social class). Furthermore, we will expect that the impact of child neglect and abuse on cognitive performance and educational achievement will be different between affective and non-affective psychosis.

Data needed for the study:
- MRC socio demographic;
- NOS-DUP
- FIGS pedigree and pedigree data form;
- CECA questionnaire and interview;
- WAIS row and scaled scores for the total scale and for each subscales;
All data, except DUP, will be collected for cases and controls from every WP2 centre.

Plan for statistical analysis (overall strategy):

- The effect of any experience of abuse or neglect on level of education achieved will be estimated separately within cases and control using multinomial regression, adjusting for any potential confounders.
- The effect of any experience of abuse or neglect on general intellectual ability and specific subtest will be estimated using a factorial ANOVA including case status (case vs. controls) and abuse and neglect status (abused/neglected vs. non-abused/non-neglected) as independent variable, adjusting for any potential confounders.

Other analyses/methods:

Involvement of external Parties (non EU-GEI):
No external parties are expected to be involved

IPR check:

Timeframe:

literature search (1 month max), obtaining the data (1 month max), completing the statistical analyses (2 months max), first draft of the paper and submission of the paper (2 -3 months)

Additional comments: