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COMMENTARY TO SPECIAL ARTICLE

The persisting burden of psychiatric disorder

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Commentary on: Angst J, Paksarian D, Cui L, Merikangas KR, Hengartner MP, Ajdacic-Gross V, Rössler W. The epidemiology of common mental disorders from age 20 to 50: results from the prospective Zürich Cohort Study. *Epidemiology and Psychiatric Sciences* (2016), **25**, 24–32.

Psychiatric disorders fluctuate but endure, and these characteristics demand extended investigation. The Zürich Cohort Study described by Angst and his colleagues (Angst *et al*. 2015) is unique. A psychiatric community survey of a 1-year cohort of young adults has been followed up on six further occasions, such that the members of the cohort are now in their 50s. Studies of this sort are aided by longevity, intellectual indefatigability and institutional stability in the lead researchers. Professor Angst, student of Manfred Bleuler and long-time servant of the University of Zürich and the Burghözli, is of course a prime example of these attributes. Because it used compulsory military screening as the basis of sampling, the Zürich Cohort Study had spectacularly good recruitment in males, of over 99%. Recruitment in females was good, at 75% and follow-up was better in them than in their male counterparts. The total fall off in participants in successive waves was from around 600 to around 330. These numbers are impressive in a cohort study, but do raise questions of statistical power, and eventually of representativeness.

Most psychiatric surveys to date have been cross-sectional. Identifying disorders in cross-sectional surveys is certainly informative: they provide information about current frequency and severity of disorder, but accounts of possible past episodes are less reliable. Moreover, people with no history of disorder at initial assessment may develop it later, partly because of the distributed age of population samples and partly because of variability in age of onset. This forms the argument for repeated assessments in an identified cohort. Studies of this type are extremely difficult to mount, and have consequently been undertaken by very few research groups.

Nevertheless, there are other community follow-up studies, some based on birth cohorts. The Munich EDSP study followed a broader cohort than the Zürich Cohort Study, initially being aged 14–24 (Asselmann *et al*. 2014). However, most follow-up studies have involved samples covering the adult age range (Eaton *et al*. 2007; Murphy *et al*. 2008; Fichter *et al*. 2010). These different designs have different advantages and disadvantages. Cohort studies are easiest to mount in a geographically restricted location, as this makes follow-up easier. It also helps to be located in a relatively stable population. However, this may render them less representative.

The extension of psychiatric epidemiology into the community is a necessary adjunct to clinical studies for answering such questions as how frequent are different forms of disorder, how severe are they, how disabling are they, how long do they last, to what extent do they receive appropriate treatment, what determines whether treatment is given, and what are the implication of findings for the rational and equitable development of psychiatric treatment services. These questions mean that surveys have to deal with almost all the central questions of psychiatric methodology. Indeed the history of surveys parallels very closely the history of psychiatric methodology.

The first consideration relates to case-finding. This involves a categorical decision about whether a particular individual meets the criteria for diagnosis of a particular disorder. This is particularly difficult if there is no general agreement about what these criteria are, and so the development of international classifications, particularly from the 1970s onwards, was of great assistance to psychiatric epidemiological surveys in the community. This is because the criteria were laid out with sufficient clarity for them to be incorporated in diagnostic algorithms, which could then be applied to potential cases in the community. It is no accident that community studies proliferated after the late 1970s.

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Case finding is reasonably straightforward in clinical settings, as the process of referral restricts the range of disorder seen and thus maximises agreement. In the community however there is a problem that is particularly acute in relation to the various types of depressive and anxiety disorders, the so-called *common mental disorders*. It transpires that the distribution of affective symptoms follows a single exponential curve (Melzer *et al*. 2002). Case finding therefore involves imposing a categorical decision on what is essentially a continuum. This issue still generates considerable discussion (Bebbington, 2015*a*; Böhnke & Crowdace, 2015; Carragher *et al*. 2015; Goldberg, 2015), and must be borne in mind in evaluating the results of all community surveys.

Classifications are intended to enable comparison across locations and time, but they are always seen as imperfect, a work in progress. Consequently they are subject to regular revision. Changes are justified on the basis of increasing knowledge, but are driven by an essentialist conceptualisation of the nature of disorder – that somehow we can refine our ability to capture the essence of the disorder (Bebbington, 2015*b*). This affects the inclusion or exclusion of a given case in ways that are hard to quantify. This in turn makes the comparison of the results of epidemiological studies at different times more difficult. It is a particular problem for cohort studies, as is apparent in the changing criteria used by Angst and his colleagues (Angst *et al.* 2015): DSM-III, DSM-III-R and DSM-IV.

It is now very well established that psychiatric disorders are widespread in all general populations studied, with surprisingly little variation across widely different jurisdictions (Kessler *et al*. 2009; Bromet *et al*. 2011). However, the proportion of cases coming to the attention of mental health services and even primary care is quite small. It appears therefore that the process of contacting psychiatric services acts as a filter, such that clinical series represent a biased sample of all potential cases (Goldberg & Huxley, 1980). It is unclear *a priori* whether this filter relates to severity of disorder or to particular social attributes of individuals that make them more likely to make contact with, or be contacted by, psychiatric services. In the British National Survey of Psychiatric Morbidity, the major determinant of contacting a primary care physician for treatment of mental disorder was symptomatic severity, with a contribution from social dysfunction. There were also significant contributions from sex, marital status, age, employment status and whether the subject had a physical condition as well (Bebbington *et al*. 2000). The attitudes and illness perceptions of people with disorder are also likely to be important. Thus Andrade *et al*. (2014) provide evidence from World Mental Health Survey data that perceptions of need are more determining in milder cases, and that the barriers to care are more likely to be structural in more severe disorders. If the latter, it is apparent that the cases seen in clinical practice may not relate very closely to the totality of disorder. These issues are important as they may illuminate both service deficiencies and unjustified inequalities of access to treatment.

One of the opportunities provided by follow-up surveys lies in obtaining more valid estimates of the onset and course of disorder. This is the focus of the paper by Angst *et al*. (this issue). The authors quote values of 33% for the cumulative incidence major depressive disorder, and of 74% for all disorders considered. However, the latter included disorders relating to substance use other than tobacco. As they say, the quoted values are higher than obtained by cross-sectional studies, and there is general acceptance that the latter cannot provide plausible prevalences. People do appear to forget long-past episodes, and it is probable that only information relating to the past year is adequately retained. Moreover, cross-sectional studies can only identify past episodes and are thus unable to provide information about lifetime risk, at least directly. Thus lifetime prevalence, as commonly reported in such surveys, is an under-estimate of lifetime risk. Note however that Angst and colleagues base their estimates of lifetime risk on the cumulative incidence derived from the previous year at all points of follow-up: this too will be an underestimate, as they are only sampling about one quarter of all the years of follow-up. Higher figures are obtained by applying actuarial methods which take account of the distribution of age-of-onset values in the population in relation to information about past-year first onsets. On this basis, our group calculated that in a south London community sample the risk of suffering an episode of minor depressive disorder by age 65 was 62% (46% in males and 72% in women) (Bebbington *et al*. 1989), while the lifetime risk of seeing a psychiatrist because of depressive illness was 12% for men and 20% for women (Sturt *et al*. 1984). We were able to do this because we had precise dates for the onset of new cases of depression. These results would be affected by changes in the age-related incidence of depression in a way that the Zürich Cohort Study avoids by being based on a followed-up cohort. There is however little evidence for cohort changes in levels of depression (Spiers *et al*. 2012). Kessler *et al*. (2005) obtained lower estimates using similar actuarial methods. They also reported that the lifetime risk of depressive disorder so calculated was 34% higher than the lifetime prevalence.

It should be noted that whatever the actual values, the Zürich Study adds to our appreciation of how very widespread is the experience of mental disorder.

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