

Global economic burden of schizophrenia: letter in response

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Dear editor

In reference to the recent systematic review by Chong et al¹ on cost-of-illness studies in schizophrenia, we seek to highlight the limited scope and apparent inconsistencies embedded within this review. The review utilizes the term schizophrenia alone as the identifying disorder-related variable within its search strategy. Schizophrenia is the prototypical and most prevalent among the psychotic disorders, and schizophrenia is certainly used as a generic term in reference to the “schizophrenia-related disorders”, International Classification of Diseases (ICD)-10 codes F20–F29. The most well-known example of such use is in the Global Burden of Disease studies.^{2–4} However, the reliance on this term as being all-inclusive is diminishing, as reflected in the chapter heading change from *Diagnostic and Statistical Manual of Mental Disorders (DSM)-IV* to *DSM-V*, namely “Schizophrenia and Other Psychotic Disorders” to “Schizophrenia Spectrum and Other Psychotic Disorders”. Further, the overarching term psychotic disorders are increasingly being used in the recognition of the substantial clinical, neuropsychological, neuroimaging, and genetic overlap between disorders within this group.

Chong et al¹ review identifies one of our cost-of-illness studies pertaining to schizophrenia and other psychoses Carr et al,⁵ but not the other Neil et al⁶ which refers to psychotic disorders within its title and abstract. Regardless, both studies encompass equivalent populations, with the difference that some results are provided by major ICD-10 diagnostic category in the earlier study by Carr et al.⁵ As there is no reference to, or discussion of disease classifications, in either the determination of the search strategy or the populations included in the reviewed studies of Chong et al,¹ we are unable to comment on the comparability of the national cost comparisons made within the review.

In regard to the characterization of Carr et al⁵ within the review, we note the following qualifications. This analysis was primarily based on resource use assessed through interview of 980 individuals with psychosis, not through published literature, and with unit prices determined with reference to published literature. While the individuals were ascertained through a census of four urban locations, national prevalence was established, and national costs determined on this basis. Thus our paper of 2003 ought to have been incorporated in the national costs comparison, with estimates provided for both psychosis and schizophrenia (F20). As noted within the review, our study was one of the only three that considered total costs in relation to gross domestic product. We also noted that productivity losses due to suicide were separately estimated within the context of the analysis, although excluded from the total costs we presented.

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Finally, we are uncertain as to what is encompassed by “direct nonmedical suicide related costs” in the study by Chong et al,¹ as suicide-related costs would normally be assessed as indirect costs. Furthermore, the inclusion of legal and law enforcement costs under indirect costs is not consistent with the usual definition which pertains, as specified by the authors, to productivity losses.

Disclosure

The authors report no conflicts of interest in this communication.

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Authors' reply

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Dear editor

We thank Dr Neil and Professor Carr for their comments regarding our published systematic review "Global economic burden of schizophrenia: a systematic review".¹ We would like to address and clarify issues raised in their letter.

The authors made a good point related the absence of "psychotic disorders" in our review. Although the suggested term is increasingly recognized, it encompasses diverse disorders including schizophrenia, other psychotic disorders, and schizotypal (personality) disorder, etc.² Owing to the fact that our review mainly focused specifically on schizophrenia, we included studies that estimated economic burden among patients with a diagnosis of schizophrenia, therefore the inclusion of this broader term "psychotic disorders" defeats the purpose of our review. We would like to argue that our search was comprehensive enough to capture all studies reported on the economic burden of schizophrenia, considering the rare use of the clinically specific term, as reckoned by the authors, in any economic burden study. In addition, the study by Neil et al³ was not identified due to the limitation of our search to title or abstract. Given that an overall cost of psychosis was estimated in Neil et al,³ it would be excluded, if identified, as it did not fulfill our predefined eligibility criteria.

The authors assert the misclassification of data sources used in their study,⁴ followed by its exclusion in the national cost comparison we performed. Since there was no actual interview conducted in Carr et al,⁴ they relied on data from the Low Prevalence Disorder Study (LPDS) in a related publication by Carr et al,⁵ such data source was classified as "literature" regardless of the methodology used in the cited publication. This was indicated in the definition of data

sources in our review. In addition, it is clear that the annual cost of psychosis for the Australian urban population was estimated and reported. This estimate may fall short in reflecting the national cost of schizophrenia in Australia, leading to its omission in the national cost comparison.

The authors question the categorization of suicide-related cost and "legal and law enforcement costs". We agree that suicide-related cost is usually seen as the indirect cost, corresponding to the productivity loss due to premature death. However, this norm is potentially an underestimation whereby direct nonmedical cost due to suicide is often neglected. In our review, only two included studies^{6,7} estimated this cost due to funeral services and investigational costs in any suicide cases. This was indeed highlighted in our discussion to call for the estimation of special cost components related to schizophrenia in future economic burden studies. While it remains unclear on the categorization of "legal and law enforcement costs", this inconsistency was noted within the included studies in our review. Similar ambiguity was reported in Ascher-Svanum et al.⁸ Based on the definition by Insel,⁹ these costs were categorized under indirect cost. However, we acknowledge this limitation, therefore highlighting that there is a strong need for a guidance document in both conduct and reporting of economic burden studies in our review. In addition, we noted an error in our review and we would like to take this opportunity to correct it – we referred to Insel⁹ for the categorization of incarceration cost, instead of Modi et al (reference 27 in our original list).¹⁰

Overall, the issues highlighted by Neil and Carr were pertinent. Our review is useful as it provides a summary of methodology used, attributes to data availability and accessibility, methodology feasibility, and practicality. Based on the large volume of data extracted from 56 studies included in our review, we have presented valid findings related to the schizophrenia – its economic burden and methods used to estimate the burden.

Disclosure

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