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# Expressed emotions and relapse of psychosis: New vistas for an old concept☆

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Substantial proportion (up to 80%) of patients with first episode psychosis experience remission with treatment (Lally et al., 2017). Yet, schizophrenia remains one of the leading causes of disability (Charlson et al., 2018). Relapse rates are as high as 80% (Lehman et al., 2010). Neurotoxic effects of relapse are well known (McGlashan, 2006); relapses also have serious psychological adverse effects (i.e., negative self-appraisal, shame, demoralization, depression – 'psychotoxic' effects) as well as social consequences (i.e., break in education, work and relationships, stigma and exclusion – 'sociotoxic' effects). Together, these push patients down the spiral of poor outcome. As each relapse makes recovery harder to achieve, relapse prevention is an important intervention to limit disability. Among several factors that influence relapse, only a few are potentially modifiable. 'Expressed emotions' (EE) of family members are important among them.

In this issue of *Schizophrenia Research*, O'Driscoll et al. (2019), report about the influence of EE on relapse of psychosis across several regions of the Globe through a systematic review and meta-analysis. They find about two-folds increase in the risk of relapse of patients exposed to high EE environment when compared to those exposed to low EE environments. They reviewed 96 English-language reports of studies that used the Camberwell Family Interview (CFI) (Vaughn and Leff, 1976) to measure EE in patients with psychoses; data from 34 studies could be included for meta-analysis examining the influence of EE on relative risk of relapse. The influence of EE on relapse was comparable across diverse regions of the world. Substantial proportion of studies was of high quality – findings were similar irrespective of the quality of the original studies, though. Length of follow up, year of publication, and inclusion of intervention studies did not significantly influence the results. CFI is arguably the gold-standard measure of EE, developed in a relatively multicultural setting. While inclusion of studies using CFI supports internal-validity of the findings, the fact that scoring methods were modified to reflect cultural variations in EE enhances their external validity. Treatment adherence and substance use comorbidity are among the most important factors associated with relapse (Porcelli et al., 2016). The extent to which these factors were controlled for in the studies included in the review is not clear. A notable finding of this paper was that even in studies where families underwent intervention for EE, patients facing high EE at baseline had nearly two-folds increased risk of relapse. This is surprising, given that family interventions are effective in reducing EE and relapse (Pharoah et al., 2006).

EE can be influenced by culture. In the context of EE and relapse of psychosis, 'culture' is hard to define and measure. Understandably, the authors of this paper examined the relationship between EE and relapse across regions, rather than cultures. Influence of EE on relapse may be moderated by what the individual domains of EE mean in specific cultures – the *emic* account of EE. For instance, in some cultures, emotional over-involvement (EOI) and critical comments (CC) may reflect healthy concern for the patient (Singh et al., 2013) which, in turn, may have positive, rather than negative influences on the patient. Moreover, EOI may be associated with another, less researched healthy domain of EE, warmth (Singh et al., 2013). The latter may temper the negative

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influence of EOI. Paucity of domain-wise data precluded what could have been a more nuanced analysis of the influence of domains of EE on relapse. The paper should reinvigorate cross-cultural studies in this important aspect of managing individuals with psychosis.

Inclusion of only studies which used CFI contributed to the homogeneity of the data. CFI requires formal training and substantial time of the researchers and respondents. In response to these challenges, several alternative tools have been developed to measure EE (Hooley and Parker, 2006). Research using these tools is sizable, particularly in under-resourced settings, for obvious reasons. For instance, a recent review on EE in India found that only 2 of the 19 studies had used CFI (Sadath et al., 2018). For research in this field to surge ahead, there is a growing need to develop tools, which balance the validity of CFI with the utility value of shorter methods of assessing EE.

Where should EE research head from here? We highlight a heuristic and a public-health direction: (1) Patients with psychoses experience deficits (Mehta et al., 2013) in social cognition domains including theory of mind, emotion perception, social cue recognition and empathy. So do first-degree relatives, albeit to a lesser extent (Lavoie et al., 2013). It is plausible that these cognitive deficits can adversely influence their mutual interactions, thus providing an iterative model for the genesis and maintenance of negative EE. The concept of EE evolved at a time, when there was little interest in social cognition of patients and relatives of patients with schizophrenia. To what extent do social cognition deficits in both patients and their relatives contribute to EE is unexplored. Research in this field has the potential to unravel cognitive aspects of EE and pave way for novel interventions.

(2) The review reports of no significant difference in the ratio of proportion of families with high and low EE across the regions; nor was there any significant difference in the mean scores of domains of EE. However, a close look at the supplementary table suggests notably wide range in the proportion of families with high EE across studies (range: 19%–83%). As all studies used CFI with appropriate adaptations in scoring, this wide variation cannot be attributed to measurement-related factors. While sampling-related variance is a plausible explanation, does this wide variation suggest possibility of a true difference reflecting potential influence of cultural factors? It is reasonable to believe that 'culture' influences the expression of EE. As already discussed, 'regions' are poor proxies for cultures. We wish to underscore the importance of systematically examining cultural variations in EE. Sociological studies using ethnographic and anthropological techniques may provide potentially invaluable understanding about EE. Multi-country studies have found important variations in the course and outcome of schizophrenia (Leff et al., 1992; Jablensky et al., 1992) as well as EE (Wig et al., 1987; Leff et al., 1987). Interestingly, the Indian center in these studies (Chandigarh), which had low proportion of families with EE also had better outcome of schizophrenia (Wig et al., 1987; Leff et al., 1987). EE, being one of the few modifiable factors associated with relapse, can theoretically be a public health target. Family therapy, while being effective, would be available for only a minuscule proportion of patients, given the stark lack of mental health human resources in many countries. In contrast, sociological studies have the potential to provide important clues about factors that influence the emergence of EE. Public health measures may leverage on them to influence EE at a larger scale. Given the significance of EE and, consequently, the risk of relapse and poor outcome of psychosis, the importance of research in this direction cannot be overemphasized.

Recent decades have seen a burgeoning increase in biomedical research trying to unravel the mystery of schizophrenia and positively influence its course, but the condition continues to cripple millions. The review by O'Driscoll et al., is timely in this context – it has highlighted the influence of an important social factor with potential for successful intervention. Research interest in EE has dwindled in the recent years. There is need for the field to move forward and explore aspects of this concept, which may provide newer insights about bettering the lives of patients who suffer from "arguably the worst disease affecting mankind, even AIDS not excepted" (Anonymous, 1988).

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