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Expressed Emotions and Vulnerability to Relapse in Schizophrenia: The Role of Family Representations

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ABSTRACT

These Expressed emotions (EE), which primarily refer to criticism, hostility, and emotional overinvolvement, constitute a relational indicator associated with the course of schizophrenia. This narrative review examines meta-analyses regarding their prognostic value, the outcomes of family interventions, and the scope of illness representations in various sociocultural contexts, with a particular focus on Morocco. The meta-analysis by Ma et al. (2021), based on 33 prospective cohorts and 2,284 participants, reports a stronger association with relapses occurring within the first twelve months (OR = 4.87; 95% CI: 3.22–7.36) than with subsequent relapses (OR = 2.13; 95% CI: 1.36–3.35). Cross-cultural studies suggest the need to interpret expressions of closeness, criticism, and warmth in light of local relational norms. In Morocco, studies conducted in Casablanca and Fez document stigma, etiological beliefs, and expressed emotions, but do not allow for inferring a longitudinal risk of relapse at the national level. The data supports a transactional, non-blaming approach to family relationships, incorporating support for family members, psychoeducation, and a contextualized assessment of needs. Multicenter cohorts and studies on the adaptation of assessment tools are needed.

Key words: expressed emotions, family, relapses, illness conceptions, schizophreni

1. INTRODUCTION

Schizophrenia is a heterogeneous psychiatric disorder whose course, for some affected individuals, is marked by symptomatic exacerbations and periods of remission of varying duration. Preventing relapses is a major goal due to their potential consequences on functioning, continuity of care, and the lived experience of patients and their loved ones. The family can be a crucial source of support, but it may also face prolonged stress, significant uncertainty, and communication difficulties. Expressed emotions (EE) stem from research in social psychiatry aimed at describing certain characteristics of the relational climate, without identifying the etiology of the disorder ([1]; [2]).

The construct primarily includes critical comments, hostility, and excessive emotional involvement. Classic studies have observed an increased frequency of relapse among patients living in environments characterized by high EE ([1]; Vaughn et al., 1984). The meta-analysis by Butzlaff and Hooley [3] consolidated the literature while noting the existence of unreplicated findings. Since then, the widespread adoption of family psychoeducational programs and the expansion of research to include early-onset psychosis, cultural diversity, and less visible forms of family communication have reignited the debate (Keegan et al., 2025; [4]).

The central question is therefore no longer merely whether EE predicts certain relapses, but under what conditions, through what plausible mechanisms, with what measurement limitations, and with what practical implications. This review aims to: (1) clarify the components and measures of EE; (2) assess the strength and limitations of their association with relapse; (3) examine transactional explanations and cultural issues; and (4) discuss the implications of family interventions for a non-blaming clinical approach.

2. LITERATURE REVIEW METHODOLOGY AND EPISTEMOLOGICAL POSITIONING

This structured narrative review examines the main studies on expressed emotions, family representations, and relapses in schizophrenia. Synthesis publications and primary studies were identified through targeted searches in PubMed/MEDLINE and the bibliographic references of meta-analyses, with particular attention to studies conducted in Morocco. Studies were selected based on their conceptual relevance, methodological transparency, and contribution to prognostic, cross-cultural, or intervention-based analysis. Priority was given to systematic reviews, meta-analyses, prospective cohort studies, and directly relevant Moroccan studies. This approach is neither an exhaustive systematic review nor a new meta-analysis; therefore, it does not provide a PRISMA diagram or an original pooled effect estimate. The results are interpreted based on study design, timing, relapse criteria, and the cultural comparability of the measures.

3. CONCEPTUALIZATION AND MEASUREMENT OF EXPRESSED EMOTIONS

3.1 Relational Construct, not a Family Diagnosis

Criticisms refer to explicit negative evaluations of the person's behavior; hostility reflects an overall negative attitude toward the person; and emotional overinvolvement refers to certain manifestations of excessive worry, self-sacrifice, or intrusiveness. These dimensions should not be confused with any expression of distress, disagreement, or emotional closeness. Their meaning depends on shared expectations, caregiving roles, and how family members and the patient interpret the interaction. A high score does not mean that a family is "responsible" for schizophrenia ([2]).

3.2 Tools and Limitations

The Camberwell Family Interview (CFI) is based on an in-depth interview that allows for a structured assessment of several dimensions of emotional involvement ([1]). Its clinical richness comes at the cost of training and time requirements. The Family Questionnaire (FQ) by Wiedemann et al. [5] offers a shorter, self-reported measure of criticism and emotional overinvolvement. In its initial study, classification agreement with the CFI was 74% for global EE, indicating the practical value of the FQ despite its lack of perfect equivalence with the gold-standard interview. The choice of instrument therefore affects the type of relationship observed, its comparability, and the risk of classification errors.

4. EXPRESSED EMOTIONS AND RELAPSE: A CRITICAL REVIEW OF THE EVIDENCE

4.1 Contributions of Traditional Prognostic Studies

Early follow-up studies revealed an association between high levels of family EE measured around the time of hospitalization and symptomatic relapses during the months following discharge ([1]). The California replication study by Vaughn et al. (1984) provided further support for the prognostic validity of criticism and emotional overinvolvement. These results are significant because emotional involvement was measured prior to the assessment of relapse; they are not based solely on a cross-sectional correlation. However, temporal sequence alone is not sufficient to demonstrate that emotional involvement directly causes relapses.

The meta-analysis by Butzlaff and Hooley [3] concluded that EE is a relevant psychosocial predictor of the course of schizophrenia. Its value lies in synthesizing scattered findings; however, its current application must consider changes in treatments, the populations studied, and diagnostic criteria. The effects reported by historical cohorts should not be automatically applied to contemporary care.

Butzlaff and Hooley [3] combined 27 studies on the relationship between expressed emotions (EE) and clinical outcome in schizophrenia. Their weighted mean correlation coefficient was r = 0.31 (reported range: 0.23–0.37), confirming a moderate association. This historical finding supports the prognostic validity of the construct without establishing a causal role for family members.

The meta-analysis and meta-regression by Ma et al. [6] examined 33 prospective cohorts, comprising 2,284 patients (30 studies in the quantitative synthesis). High EE scores were associated with relapse within 12 months (OR = 4.87; 95% CI: 3.22–7.36) and after 12 months (OR = 2.13; 95% CI: 1.36–3.35). Critical comments were associated with relapse (OR = 2.22; 95% CI: 1.16–4.26), whereas emotional warmth was associated with a reduced risk of relapse (OR = 0.35; 95% CI: 0.15–0.85). These odds ratios should not be directly converted into relative risks.

4.2 First Psychotic Episode and Heterogeneity of Trajectories

The systematic review by Keegan, Brown, and Gaynor (2025) on family factors in first-episode psychosis situates first-episode psychosis within a broader network of family variables and clinical, social, and occupational outcomes. It calls for distinguishing early trajectories from those of established disorders. The relationships between family climate and course of the illness may change over the course of the illness, depending on caregivers' experiences, living arrangements, and access to services. In a scientific review, a first psychotic episode should not be treated as strictly equivalent to a sample of chronic schizophrenia.

4.3 Rigorously Defining Relapse

Studies operationalize relapses in various ways: a resurgence of positive symptoms beyond a certain threshold, the need for a change in treatment, hospitalization, or an overall clinical assessment. These events are not interchangeable. Hospitalization also depends on healthcare resources, family decisions, and the healthcare system; therefore, the absence of hospitalization does not prove the absence of relapse. A rigorous review must distinguish between symptomatic relapses, rehospitalization, functional deterioration, and symptom persistence.

5. UNDERSTANDING THE MECHANISMS WITHOUT UNJUSTIFIED CAUSAL INFERENCE

Several explanatory pathways are plausible. Within the vulnerability–stress framework, sustained exposure to interactions perceived as threatening could increase subjective stress and contribute to the exacerbation of symptoms in some individuals. Criticism may also interact with beliefs about threat, sensitivity to rejection, and difficulties with emotional regulation. Conversely, psychotic symptoms, withdrawal, disorganization, or insomnia may intensify the concerns and critical reactions of loved ones. Thus, there is a possible transactional loop rather than an exclusively unidirectional mechanism ([2]).

Confounding factors are key: initial symptoms, substance use, treatment interruptions, history of relapse, precarious living conditions, caregiver burden, and access to care may be associated with both adverse events and clinical outcomes. A statistical link between EE and relapse does not, on its own, distinguish between these influences. In prospective research, repeated measurements of symptoms and EE, as well as explicit adjustments, would be necessary to better test temporal hypotheses.

6. CULTURE, RELATIONAL NORMS, AND CONSTRUCT VALIDITY

The meaning of criticism, autonomy, family closeness, or sacrifice varies according to social norms. Behaviors perceived as intrusive in one context may, elsewhere, be part of an expected norm of care. Conversely, an apparently protective expression may be experienced by the patient as pressure. Comparisons between groups therefore require an examination of the invariance of the measures, the linguistic context of the interview, and perceptions of the illness—rather than merely comparing raw scores ([2]).

In Moroccan contexts, this issue warrants specific investigation that takes into account living arrangements, intergenerational roles, and conditions of access to psychiatric services. It would not be scientifically justified to assert, without local data, that Moroccan families exhibit higher EE scores or a particular universal profile. An original contribution could involve clarifying the conditions for the transferability of these instruments and formulating a local research program.

In European and North American contexts where the construct was developed, criticism, hostility, and overinvolvement are

operationalized based on standardized coding conventions. However, expectations regarding autonomy, intergenerational cohabitation, and the frequency of contact may alter their functional significance. Verbal criticism does not necessarily carry the same relational weight from one group to another.

In many Asian, Arab, and North African contexts, obligations of family solidarity, the role of caregivers, religious language, and traditional explanations of the disorder may coexist with biomedical explanations. These must be studied empirically rather than assuming that a given social context automatically leads to more or less EE. The 2019 cross-cultural meta-analysis found no significant overall regional effect but highlighted the need to reexamine certain scoring rules of the Camberwell Family Interview.

In resource-limited settings, transportation costs, access to consultations, continuity of care, unemployment, and the practical burden on caregivers can shape family tensions just as much as perceptions of the illness. The analysis of EE must therefore be part of an ecological model that integrates care, material conditions, and the reciprocal relationship between the patient and their loved ones.

7. FAMILY INTERVENTIONS: RESULTS, SCOPE, AND UNCERTAINTIES

The Cochrane review by Chien et al. [4] included 26 randomized trials, involving 1,985 people with schizophrenia or a related disorder and 2,056 family members. Compared with usual care, family interventions may reduce relapses in the short term, with a relative risk of 0.66 (95% CI: 0.49–0.89; 4 trials, 229 participants; low certainty). They likely reduced the burden on family members at the time of assessment, but the evidence was of moderate certainty; the review highlighted significant uncertainties regarding adherence and quality of life. A shift from high to lower levels of evidence was also possible, based on limited data. These estimates do not support the idea of a universal effect or the equivalence of all intervention modalities.

The NICE CG178 guidelines recommend offering family intervention to families living with the person or maintaining close contact with them. They specify a duration of three months to one year, at least ten scheduled sessions, and content that includes support, education, and negotiated problem-solving or crisis management. This recommendation should be implemented according to the preferences, needs, and practical circumstances of the person and their loved ones. Family psychoeducation complements care; it is not a substitute for clinical assessment and comprehensive treatment (NICE, CG178).

8. PERCEPTIONS OF SCHIZOPHRENIA AND FAMILY CONSTRUCTION OF MEANING

Perceptions of illness are not merely peripheral opinions: they shape the family's expectations, interpretations of confusing behaviors, and decisions regarding support. The same decrease in initiative can be perceived as a negative symptom, treatment-related fatigue, a lack of willpower, or an act of resistance. These interpretations lead to different relational responses support, encouragement, confrontation, monitoring, or withdrawal whose consequences for the family atmosphere are not equivalent. Distinguishing between clinical signs, beliefs, and care practices is therefore an essential prerequisite for analysis.

Explanatory models may be biomedical, psychosocial, spiritual, moral, or hybrid. The thematic review published in *Schizophrenia Bulletin Open* (2025) on personal explanations of psychosis emphasizes that the meaning attributed to the psychotic experience is heterogeneous and contributes to the recovery process. This literature focuses primarily on those directly affected; its extension to the perceptions of family members must be explicitly considered as a hypothesis to be examined rather than a finding that can be automatically applied. The study on the etiological beliefs of Mexican families (2024) also invites an examination of the relationship between explanatory frameworks and expressed emotions.

A clinical interpretation must avoid the oversimplification that a non-biomedical belief is inherently pathogenic. A religious explanation can coexist with access to care, whereas an exclusively biomedical explanation may be accompanied by fatalism, detachment, or discrimination. In particular, the rigidity of interpretation, the imposition of guilt, the attribution of intentionality to the patient, and the possibility of negotiating a shared understanding are all worthy of study.

9. STIGMA, FAMILY IDENTITY, AND THE BURDEN OF CAREGIVING

The stigma associated with schizophrenia can affect not only the person diagnosed but also their loved ones by association. Families may fear social judgment, conceal the diagnosis, limit their social contacts, or delay seeking services. The qualitative meta-synthesis published in Heliyon (2023), based on 16 articles, describes, among other things, social misunderstandings, structural barriers, and caregivers' coping strategies. Stigma is therefore not an isolated intrafamilial trait: it depends on collective norms, institutions, and concrete experiences of exclusion.

The subjective burden on caregivers includes anxiety, sleep deprivation, financial uncertainty, marital tensions, and reduced time devoted to personal life. Irritability or repeated interventions by a loved one may be interpreted as excessive emotional involvement without having assessed the caregiver's exhaustion, available resources, and the lack of respite services. A clinical analysis must therefore distinguish between observable relational behaviors, the patient's experience of them, and the constraints under which the caregiver operates.

It is important to consider the potentially circular relationship between stigma, isolation, burnout, and critical communication. However, most cross-sectional studies do not allow for identifying the direction of this association. Longitudinal, multi-informant designs could test whether stigmatizing perceptions precede an increase in criticism, or whether clinical deterioration and family overload gradually transform these perceptions.

10. TRANSACTIONAL PROCESSES: FROM THE LINEAR MODEL TO THE RELATIONAL MODEL

The simplified schema "high levels of expressed emotions → relapse" does not account for reciprocal interactions. Symptomatology itself can increase the frequency of family interventions, alter physical proximity, cause anxiety, and generate controlling behaviors. Conversely, a conflict-ridden atmosphere can amplify subjective stress and complicate emotional regulation. These are plausible and partially supported pathways, but not a universal causal chain.

A transactional model distinguishes at least four levels: individual clinical characteristics (symptoms, cognition, comorbidities, and treatments); dyadic transactions (criticism, support, withdrawal, conflict resolution); shared cognitions (attributions of responsibility and expectations of recovery); and structural determinants (housing, precarious living conditions, continuity of care). Each level can modify the effect of the others. For example, one must distinguish between repeated criticism of deliberate behavior and an anxious reaction to an acute risk and observe how the patient interprets this intervention.

This conceptualization justifies repeated measurements over time rather than a fixed classification of families as "high EE" or "low EE." It also advocates for an assessment of warmth, validation, and moments of support—dimensions that are often less visible in analyses focused exclusively on criticism. Ecological sampling experiments and dyadic diaries could shed light on the short-term interplay between stress, communication, sleep, and early signs of exacerbation.

11. NEW RESEARCH DIRECTIONS AND METHODOLOGICAL ISSUES

A primary priority is the harmonization of relapse criteria. Howes et al. (2025) demonstrated significant variability in the definitions used in clinical trials and proposed consensus elements to standardize their operationalization. Future studies on expressed emotions should distinguish between symptomatic change, treatment intensification, emergency department visits, and hospitalization, rather than merging them without justification.

A second priority is the inclusion of first psychotic episodes. The review by Keegan, Brown, and Gaynor (2025) on family factors in first episodes highlights the value of broadening the focus to include social and occupational functioning, beyond relapse alone. A third priority lies in comparing assessment tools: the Camberwell Family Interview provides detailed documentation of the observed dimensions, whereas self-report questionnaires measure a potentially different experience. Agreement between patients and their relatives, as well as measurement invariance across languages, should be reported.

A fourth priority concerns mixed methods approaches and culturally diverse samples. Qualitative interviews could explore explanations of the illness, local forms of social support, and healthcare-seeking behaviors. A quantitative component could then test pre-specified hypotheses: mediation by caregiver burden, moderation by stigma, or the interaction between criticism and support. Attributing causality would require adequate controls and demonstrable temporal sequence; even longitudinal analyses remain vulnerable to residual confounding.

12. PROSPECTS FOR THE MOROCCAN CONTEXT AND CLINICAL IMPLICATIONS

In Morocco, patterns of intergenerational cohabitation, solidarity networks, regional disparities in access to care, and the diversity of ways in which psychological distress is interpreted represent relevant areas of research. However, these should not be assumed to be uniform across the entire population. An investigation that is sensitive to differences in generation, language, social background, and care history would be preferable to a simplistic dichotomy between "traditional" and "modern" families.

In practice, a shared assessment of perceptions could explore questions such as: "What does this diagnosis mean to you?", "To what do you attribute the changes you've observed?", "Which behaviors concern you the most?", and "Which reactions do you find helpful or, conversely, harmful?". These

questions do not constitute a validated psychometric tool, but rather a clinical guide for collaborative planning. Their purpose is to facilitate a discussion of goals rather than to identify a family member responsible for relapses.

NICE guidelines support structured family interventions, in collaboration with those affected. Clinically, psychoeducation, problem-solving, crisis planning, and support for caregivers can be offered alongside other components of care. It would be premature to assert that an intervention targeting only beliefs reduces relapses without specific trials. A promising approach involves testing programs that combine work on beliefs, regulation of critical interactions, and consideration of the family's burden.

A survey conducted by Kadri, Manoudi, Berrada, and Moussaoui [7], conducted in Casablanca among 100 relatives of patients with schizophrenia, reported that 76% felt they did not understand the illness. Among the explanations cited were stressful events (46%), witchcraft (25%), drugs (25%), heredity (23%), and organic disorders (30%). These beliefs were not mutually exclusive. This study also describes significant stigma experienced by families. Due to its age and local recruitment, it cannot be used to provide the current national estimate.

In Fez, Bout, Berhili, Aarab, and Aalouane [8] conducted a cross-sectional study of 50 patient–caregiver dyads using the Family Attitude Scale. They observed high levels of emotional distress (EE) in 48% of caregivers; its presence was associated in particular with a sense of shame toward the ill family member and the patient's cannabis dependence. This study did not prospectively measure relapse: it sheds light on family-related factors without establishing a local risk predictor.

These two studies suggest the need to develop multicenter longitudinal studies in Morocco that jointly examine etiological beliefs, stigma, criticism, warmth, the burden on caregivers, access to care, treatment adherence, and relapse. The assessment tools (Camberwell Family Interview, Family Questionnaire, Family Attitude Scale) require linguistic and psychometric evaluations tailored to the relevant populations; their cut-off scores cannot be applied without verification.

A novel priority would be to test a transactional model in which family perceptions are linked to expressed emotions, which in turn are linked to daily interactions, and all of these are linked to clinical outcomes, while controlling for initial symptoms, substance use, and social determinants. This framework constitutes a testable hypothesis, not a finding demonstrated by the available Moroccan studies.

13. LIMITATIONS OF THIS REVIEW

This review has several limitations. First, the literature search was targeted and not exhaustive: the absence of a pre-registered systematic review, independent study selection, and formalized assessment of risk of bias precludes any claim to a comprehensive synthesis of the evidence. Second, prognostic studies vary widely in terms of the instruments used to assess expressed emotions, classification thresholds, follow-up durations, and relapse criteria; therefore, pooled estimates are not directly comparable. Third, observational studies remain susceptible to confounding factors, reverse causality, and temporal variations in family relationships. Fourth, cross-cultural validations of the instruments are not uniform, and the categories "critical" or "overinvolvement" may encompass distinct meanings. Finally, available Moroccan studies remain limited, often cross-sectional and localized, which precludes drawing conclusions about national generalizability or establishing a prospective link between family perceptions and relapse in Morocco. These limitations call for the design of multicenter longitudinal cohorts combining clinical data, family members' perceptions, and patients' perspectives.

CONCLUSION

The emotions expressed constitute a robust though context-dependent prognostic indicator of relapses in schizophrenia. Quantitative reviews suggest that family criticism and the quality of the relational climate are associated with clinical course, while family interventions may reduce the risk of relapse. However, this literature does not justify either a monocausal interpretation or the attribution of blame to family members. Integrating perspectives on the illness, stigma, the burden on caregivers, and the reciprocity of interactions allows for a more nuanced understanding of these trajectories. The data available from Morocco underscore the relevance of these dimensions, though their longitudinal predictive value has not yet been established. The scientific challenge now is to test transactional and culturally sensitive models that integrate family assessments and clinical follow-up, to guide collaborative interventions tailored to local resources.

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