

tal stimuli (in other words, *excessive* attention to information that is irrelevant or highly familiar), leading to an unusual salience of stimuli. There is strong face validity that the phenomenological disturbances which might arise from (and in turn consolidate) these neurocognitive disturbances accord with many of the experiential alterations associated with basic self disturbance<sup>6</sup> (e.g., diminished “ownership” of mental content, confusion of self-other boundaries, hyper-reflexivity).

We tested this model empirically in 50 ultra-high risk for psychosis subjects, 39 first-episode psychosis patients and 34 healthy controls. Participants were assessed with a variety of clinical measures, including the Examination of Anomalous Self-Experience (EASE)<sup>7</sup>, and neurocognitive and neurophysiological measures of source monitoring deficits (Action Memory Task, Word Recognition Test, Temporal Binding Task, Auditory Button-Press Task) and aberrant salience (Salience Attribution Test, Babble Task, Auditory Oddball Paradigm).

Linear regression indicated that source monitoring (composite score across neurocognitive and neurophysiological measures), with study group as an interaction term, explained 39.8% of the variance in EASE scores ( $R^2=.41$ ,  $F(3,85)=14.78$ ,  $p<0.001$ ). Source monitoring significantly predicted EASE scores ( $\beta=.80$ ,  $p<0.001$ ), and there was a significant source monitoring by study group interaction effect ( $\beta=.29$ ,  $p<0.05$ ).

In order to determine the specificity of the relationship between source monitoring deficits and EASE scores, a series of regressions with other clinical scales as dependent variables were performed. Although source monitoring was found to significantly predict variance in scores on each of these clinical measures, the variance explained was not as substantial as for the EASE scale: 25% for Brief Psychiatric Rating Scale (BPRS) scores ( $R^2=.25$ ,  $F(3,85)=9.01$ ,  $p<0.01$ ); 19% for BPRS positive symptoms ( $R^2=.19$ ,  $F(3,85)=6.69$ ,  $p<0.01$ ); 26% for Comprehensive Assessment of At Risk Mental States (CAARMS) positive symptoms ( $R^2=.26$ ,  $F(3,85)=9.45$ ,  $p<0.01$ ); 14% for Scale for the Assessment of Negative Symptoms (SANS) scores ( $R^2=.14$ ,  $F(3,85)=4.71$ ,  $p<0.01$ ).

The same analysis was performed with the aberrant salience composite score. This score explained only 6% of the variance in EASE scores ( $R^2=.06$ ,  $F(3,85)=1.44$ ,  $p=0.93$ ). However, exploratory analyses indicated moderate relationships between aberrant salience, particularly the Babble task<sup>8</sup>, and general psychopathology (BPRS score in first-episode psychosis patients,  $r=.44$ ,  $p<0.05$ ), particularly with positive psychotic symptoms (BPRS positive symptoms in first-episode psychosis patients,  $r=.53$ ,

$p<0.01$ ; CAARMS positive symptoms in ultra-high risk subjects,  $r=.44$ ,  $p<0.01$ ).

This is the first empirical test of a neurophenomenological model<sup>6</sup> organized around the construct of basic self disturbance. Partial support for the model emerged: there was a significant relationship between basic self disturbance and source monitoring deficits, while no relationship was found with aberrant salience, which was moderately related to general psychopathology, particularly positive psychotic symptoms (and is therefore possibly more a state-based feature of the illness).

The model may need to be expanded from source monitoring deficits to encompass other constructs that recent theoretical and empirical work suggests may be relevant, such as disturbed temporal processing, intermodal/multisensory integration, and hierarchical predictive processing. These are overlapping constructs and it is yet to be determined if one or several of these constructs have causal or explanatory primacy with regard to basic self disturbance.

The current data and other related recent research show an emerging picture of neurocognitive and neurophysiological correlates of core phenomenological aspects of schizophrenia spectrum disorders beyond surface-level episodic psychotic symptoms. Pursuing this approach offers the possibility of integrating levels of research around central features of the schizophrenia spectrum and of “mutual enlightenment” between these different levels of enquiry.

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## Improving access to evidence-based interventions for young adolescents: Early Adolescent Skills for Emotions (EASE)

About half of all mental disorders emerge by 14 years of age<sup>1</sup>. In adolescents, depression is the main cause of disability, anxiety is ranked seventh, and suicide is the third leading cause of

death<sup>1</sup>. An estimated 10-20% of adolescents worldwide suffer from mental disorders<sup>2</sup>, which are associated with health and social problems, such as poor academic attainment, substance

misuse, and economic difficulties<sup>3</sup>. Consequently, adolescence is a critical period in which to intervene.

Adolescents living in low- and middle-income countries (LMICs) may be especially at risk of mental disorders when they are exposed to adversity, such as extreme poverty and violence<sup>4</sup>. While advances have been made, access to evidence-based psychological treatments for adolescents in LMICs is rare<sup>4</sup>.

There is a growing literature on effectiveness of psychosocial interventions for youth in LMICs. A recent systematic review and meta-analysis of individual participant data from 3,143 children affected by conflict recruited to eleven randomized controlled trials found that focused psychosocial interventions can be effective in reducing post-traumatic stress disorder (PTSD) symptoms and in increasing hope, coping and social support, and reducing functional impairment<sup>5</sup>.

The World Health Organization (WHO) is seeking to strengthen the quantity and quality of mental health services. As part of the Mental Health Gap Action Programme (mhGAP), the WHO is developing and testing the effectiveness of brief, transdiagnostic psychological interventions, including those for young adolescents, that can be implemented by trained and supervised non-specialists in multiple settings, including health, protection and education<sup>6,7</sup>.

Building on ongoing work to develop and test potentially scalable psychological interventions for adults<sup>8</sup>, the WHO has developed a group intervention for young adolescents (about 10 to 14-year-olds) exhibiting internalizing problems (e.g., symptoms of depression or anxiety). The intervention is called Early Adolescent Skills for Emotions (EASE).

Central to the development of EASE was the capacity to address comorbid emotional problems in one intervention and promote scale-up in LMICs with the use of briefly trained non-specialists. The formative process to develop EASE included a narrative review, the identification of empirically-supported strategies that were most commonly used in effective interventions according to the PracticeWise<sup>9</sup> database, and extensive expert consultation (a concept note on the development of EASE is available upon request).

EASE aims to mitigate symptoms of internalizing disorders, such as depression and anxiety, by the provision of four core empirically-supported strategies delivered face-to-face over seven group sessions with adolescents, and three group sessions with their caregivers.

Strategies with young adolescents are introduced in order of complexity, thus each session reviews and rehearses previously introduced strategies, with practice between sessions encouraged. Sessions are designed to last 90 min. They include pictures, stories and activities to encourage youth engagement.

The first session aims to build rapport with participants and develop group cohesion. Psychoeducation is presented, informing participants about adversity and emotional distress. Participants are also taught how to appropriately identify their own emotions (“Understanding My Feelings”) which is seen as fundamental to basic emotional regulation. Session 2 addresses

problems of physical arousal associated with stress, anxiety and anger, and introduces slow breathing (“Calming My Body”) to promote arousal reduction.

Participants are encouraged to engage in meaningful activities to improve their mood in sessions 3 and 4 (“Changing my Actions”). Based on behavioral activation, this strategy aims to address symptoms of inactivity and help engage adolescents in more meaningful activities.

Sessions 5 and 6 promote independent problem solving skills via a simplified problem solving technique called “Managing my Problems”. Embedded within this strategy are questions to prompt participants to seek social support. Finally, session 7 focuses on relapse prevention and helps participants prepare to use the strategies independently in the future.

Given difficulties with engagement of employed or overburdened caregivers, and in the context of a brief intervention, only three two-hour group caregiver sessions are included. They aim to build on existing strengths and promote adaptive parenting practices to improve the caregiver-child relationship and enhance confidence when responding to adolescent distress.

In the first session, caregivers are provided with psychoeducation and skills to better equip them to respond and provide comfort to their child when they are overwhelmed by feelings of distress. Emotion identification, active listening and slow breathing are taught and practiced. The second session focuses on positive parenting strategies including praise, boosting their child’s confidence and the discontinuation of physical discipline. Finally, caregiver self-care (e.g., sleep, nutrition, stress reduction strategies) is covered in session 3. This session aims to enhance caregiver’s capacity to cope with challenges related to the environment and to parenting an adolescent experiencing significant distress. Education about relapse prevention is also provided in this final session. Practice and application of strategies is encouraged between sessions. In addition, across all sessions, caregivers are informed of the strategies being taught in the adolescent sessions.

Beyond the caregiver and youth sessions, facilitators are trained to monitor and identify indicators of threats to adolescents’ wellbeing in the home environment and to make referrals as indicated.

The capacity to effectively implement and scale up this intervention in LMICs is critical. Adopting a responsibly implemented (e.g., including ongoing supervision and support) task-sharing approach by employing non-specialists makes EASE more affordable and scalable. Facilitators of this intervention are expected to have at least high-school education, but are not required to have previous mental health experience. They will complete eight to ten days of training in basic mental health education, counseling and group management skills and the EASE intervention, and receive weekly supervision. Similar task-sharing approaches have been employed in studies demonstrating effectiveness in adults<sup>10</sup>.

Access to effective psychological interventions for adolescents is essential to promote healthy development into adulthood. EASE is a brief, transdiagnostic intervention that aims to mitigate symptoms of emotional distress in young adolescents. If proven

effective, it can potentially be scaled-up in many settings. The effectiveness of EASE is currently being tested through randomized controlled trials in Lebanon, Jordan, Pakistan and Tanzania.

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## Lack of evidence for the efficacy of psychotherapies for PTSD and depression in child and adolescent refugees

Post-traumatic stress disorder (PTSD) and depression are known to be prevalent among young refugees and internally displaced individuals. The need for effective interventions for this population is becoming increasingly evident in view of the large number of recent and current armed conflicts.

We conducted a systematic review and meta-analysis of randomized controlled trials on the efficacy of psychological interventions for PTSD and depression in child and adolescent refugees and internally displaced individuals. The aims and methods of the meta-analysis were registered with the PROSPERO database (CRD42017071384).

We searched the databases PsycINFO, MEDLINE, and PILOTS up to February 2018. The following search terms in keywords, titles and abstracts were used: PTSD, depression, refugee (or related terms such as asylum seeker or displaced person), and treatment (or related terms such as intervention or psychotherapy). Additionally, reference lists of identified publications and systematic reviews were examined.

The inclusion criteria were: a) trial conducted with child or adolescent refugees or internally displaced individuals; b) participants randomly assigned to treatment conditions; c) at least ten participants completing an active psychological treatment for PTSD or depression or both. No restrictions were made upon intervention format, publication type, or publication language. If studies did not provide sufficient data for performing the meta-analysis, the authors were contacted by e-mail to retrieve these data.

We coded and extracted relevant study, intervention and participant characteristics, such as number of participants, comparison group(s), type of outcome measure used, outcome scores, and number of sessions. Furthermore, we rated the quality of the included trials by applying nine criteria used in

similar meta-analyses<sup>1</sup>. To conduct the analyses, the control group mean was subtracted from the treatment group mean at post-treatment or follow-up, and divided by the pooled standard deviation. Subsequently, to obtain the effect size Hedges's *g*, the outcome was multiplied by a sample size correction factor and the random effects model was applied. Analyses were completed with Comprehensive Meta-Analysis Version 3. Given that less than ten trials met our inclusion criteria, no test of publication bias could be conducted.

After screening 1,716 potential hits, eight trials met our criteria<sup>2-9</sup>. All publications were written in English, seven were published in peer-reviewed journals and one was a doctoral thesis<sup>7</sup>. Seven of the trials were conducted with internally displaced individuals, whereas two were conducted with refugees<sup>6,8</sup>. In three trials, treatment was performed in group format<sup>2,5,9</sup>. Four trials assessed both PTSD and depression<sup>4,5,7,9</sup>, one focused on depression only<sup>2</sup>, and three focused on PTSD only<sup>3,6,8</sup>.

Experimental conditions consisted of trauma-focused cognitive behavior therapy that included narrative exposure therapy<sup>3,4,6-8</sup>, interpersonal therapy<sup>2</sup>, classroom-based intervention<sup>9</sup>, and writing for recovery<sup>5</sup>. Active treatments were compared to waitlist in four trials. In two trials, the experimental condition was compared to an inactive control condition in addition to the waitlist. In three trials, two active conditions were compared to each other.

The number of participants per condition varied from 11 to 248, with a mean of 78.7±61.9. The mean age of participants was 13.1±1.9, and 49.9% of them were female. Two and three trials, respectively, used structured clinical interviews to assess PTSD or depression; the remaining trials applied self-reports. The number of sessions ranged from 6 to 16.