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Brief report

Achieving convergence between a community-based measure of explosive anger and a clinical interview for intermittent explosive disorder in Timor-Leste

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ABSTRACT

Background: There is growing research interest in understanding and analyzing explosive forms of anger. General epidemiological studies have focused on the DSM-IV category of Intermittent Explosive Disorder (IED), while refugee and post-conflict research have used culturally-based indices of explosive anger. The aim of this study was to test the convergence of a culturally-sensitive community measure of explosive anger with a structured clinical interview diagnosis of IED in Timor-Leste, a country with a history of significant mass violence and displacement.
Methods: A double-blind clinical concordance study was conducted amongst a stratified community sample in post-conflict Timor-Leste ($n=85$) to compare a community measure of anger against the Structured Clinical Interview (SCID) module for IED.
Results: Clinical concordance between the two measures was high: the area under the curve (AUC) index was 0.90 (95% CI: 0.83–0.98); sensitivity and specificity were 93.3% and 87.5% respectively.
Limitations: Response rates were modest due to the participant's time commitments.
Conclusions: It is possible to achieve convergence between culturally-sensitive measures of explosive anger and the DSM-IV construct of IED, allowing comparison of findings across settings and populations.

1. Introduction

Pathological forms of anger have attracted increasing mental health research attention in recent years (Fava et al., 1990), with national epidemiological studies in the United States and Japan documenting the prevalence and correlates of the DSM-IV category of Intermittent Explosive Disorder (IED) (Kessler et al., 2006; Yoshimasu et al., 2011). In parallel, research in post-conflict settings has investigated the association between the traumas of mass violence and explosive forms of anger. This has led to the development of measures of anger adapted to the cultural and sociopolitical context of target populations (Hinton et al., 2009; Silove et al., 2009). In order to draw comparisons across the whole body of research on anger, there is a need to examine the level of convergence of culture-based measures of anger and clinically-defined IED.

To our knowledge, a study in South Africa is the only investigation that has assessed IED prevalence (9.5%) in a country that has undergone major political upheaval in recent decades (Fincham et al., 2009). We have developed and applied a brief measure of explosive anger in an epidemiological survey in Timor-Leste in 2004. Timor-Leste is a half-island country situated north of Australia between Papua New Guinea and Indonesia. Its occupation by Indonesia from 1975–1999 was a period characterized by wide-spread political repression, intimidation, mass violence, killings, disappearances and torture (CAVR, 2005). In 1999, Indonesia withdrew after the Timorese voted for independence in an UN supported referendum, but only following a post-election humanitarian crisis that included widespread atrocities, mass displacement and destruction of infrastructure (Silove, 1999). Since Timor-Leste was established as an independent nation in 2002, ongoing periods of internal conflict and instability have occurred, most notably in 2006, and the country continues to face major socio-economic and development challenges.

We used ethnographic and qualitative methods to adapt the contemporary definition of anger attacks (Fava et al., 1990; Fava et al., 1991) to the cultural and linguistic setting in Timor-Leste (Silove et al., 2009). Anger attacks had earlier been identified by Timorese community informants as being prevalent and highly

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disruptive to the community (Brooks et al., 2011). The 2004 survey found that explosive anger was prevalent (38%), a rate substantially higher than that observed for PTSD (7%) and an index of general distress (5.4%) (Silove et al., 2008; Silove et al., 2009), suggesting that extreme anger is not simply a component of other post-traumatic disorders. The prevalence of anger attacks also appeared to be higher than the rates of more strictly defined IED assessed in countries such as the USA (7.3%) (Kessler et al., 2006) and Japan (2.1%) (Yoshimasu et al., 2011), but differences in definition and measurement have precluded direct comparison across countries. Therefore, in order to facilitate meaningful cross-national comparisons, it was important to attempt to reconcile culturally-based assessments of explosive anger with the DSM-IV criteria of IED.

Since the baseline study in 2004, we have implemented a series of modifications to the community measure of anger to align the index with DSM-IV diagnostic criteria for IED, while maintaining its cultural and linguistic sensitivity. This updated community measure has been used in a 6-year follow-up study of our 2004 baseline survey in 2010–2011. The aim of the present analysis was to test the level of convergence of the community measure of explosive anger with a structured clinical interview diagnosis of IED in Timor-Leste.

2. Methods

2.1. Measures

2.1.1. Community-based anger measure

The 2004 survey assessed the prevalence of episodes of explosive anger or anger attacks using an item expressed in the indigenous language of Tetum: "*Karik iha tempo nebe ita sente mosu hirus derepente*?" which translates to: "Do you have sudden attacks of anger?". Also included were questions concerning the frequency of the anger episodes (Silove et al., 2009). Following the 2004 survey, we extended the pool of items to incorporate indicators of anger expression and associated levels of social and functional impairment. To develop these items, a series of ethnographic field tests were conducted over a period of several months in locations geographically separated from the main community survey. The focus was on, (1) extending anger items to develop an expanded measure capturing the nature and significance of anger and aggression in Timorese communities, while also aligning the overall measure with the DSM-IV criteria for IED; (2) ensuring accuracy of comprehension in Tetum of anger items, given that Tetum contains a limited array of terms for emotional disturbances such as anger; and (3) enabling participants to make candid verbal responses that reflected their anger experiences given literacy rates are low in Timor-Leste. Item and language modifications were made iteratively in a feedback loop based on field testing, and by consultation amongst the Australian and Timorese research team.

The key domains of the final modified community anger measure were, descriptors of anger attacks; triggers and the contextual inappropriateness of anger attacks; the level of controllability of anger; frequency of attacks; manifestations of aggressive behavior (verbal, against property, and interpersonal); physiological manifestations of anger; and level of associated psychosocial impairment. The Tetum version of the community measure was back-translated into English according to standard practice (Bracken and Barona, 1991), and analyzed for consistency with the DSM-IV construct of IED. Field testing guided the selection of a visual analog scale consisting of 7 circles that increased progressively in size and darker shades of gray to indicate gradations in severity for each symptom. An algorithm

Table 1
IED DSM-IV criteria aligned with associated items from community anger measure items included in the IED scoring algorithm.

	IED DSM-IV criteria	Community anger Measure items[a]	Cut-off accepted for presence of symptom[b]
A	Several discrete episodes of failure to resist aggressive doller06#impulses that result in serious assaultive acts or doller06#destruction of property	**A1. Presence of anger attacks:** do you have sudden episodes doller06#or attacks of anger? And…	Present
		A2. Presence of aggressive behavior: exhibit one type of doller06#aggressive behavior to a significant degree	*Circle 1 (Never)–Circle 7 (every time I get angry)*
		How often do you shout/yell? Or…	Circle 4 or above
		How often did you throw or break things? Or…	Circle 2 or above
		How often did you push or hit someone?And…	Circle 3 or above
		A3. Loss of control	*Circle 1 (Never)–Circle 7 (every time I get angry)*
		When you became very angry, how often did doller06#you feel out of control? And…	Circle 4 or above
		A4: Frequency of aggressive anger attacks? How often do the attacks occur?	Once a month or more
B	The degree of aggressiveness expressed during the doller06#episodes is grossly out of proportion to any precipitating psychosocial stressors	**B1. Anger attacks out of proportion to trigger** Over the past month, have small things that have happened doller06#to you in your daily life triggered these attacks? Or	Present
		B2. Anger attacks perceived as excessive Do you have anger attacks that seem excessive to yourself or other people?	Present
C	The aggressive behavior is not better accounted for by another mental disorder, and is not due to the direct physiological doller06#effects of a substance or a general medical condition C1. doller06#Anger attacks not due to alcohol or drug intake?	**C1. Anger attacks not due to alcohol or drug intake?**	*Circle 1 (Never)–Circle 7 (every time I get angry)*
		You have indicated that you sometimes shout/yell, throw/break or push/hit someone. When this happens how often are you drinking or using drugs?	Circle 1 only

[a] The items are presented in simplified form in English translation from Tetum. The original items include additional description consistent with structure of the Tetum language. The Tetum translations are available upon request.
[b] Cut-off thresholds were determined by median scores in the 2010-2011 survey (excluding respondents who did not endorse presence of anger attacks).