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The psychosocial correlates of depressive disorders and suicide risk in people with epilepsy

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ABSTRACT

Objective: Despite considerable effort to identify correlates of psychopathology in people with epilepsy (PWE), research has yet to identify consistent predictors. We tested the association between factors predicted by a model of adjustment to illness and psychopathology in PWE.
Methods: In 123 PWE recruited from a tertiary referral centre, we examined the cross-sectional relationship between psychosocial factors (illness representations, coping, self-illness enmeshment and self-efficacy) with depression and suicide risk, while controlling for condition-related and demographic factors.
Results: Multivariate analyses confirmed previous findings showing that condition-related and demographic variables did not consistently account for unique variance in depression although employment status was found to be a significant predictor of suicide risk. In multivariate analyses escape-avoidance coping and the illness consequences subscale of the illness representation questionnaire predicted unique variance in both depression and suicide risk.
Conclusion: The results provided partial support for a model of adjustment to illness. Specifically, those who believed epilepsy was serious and coped through avoidance were more likely to be depressed and report a current level of suicide risk. These results suggest that interventions that target coping strategies and illness representations may be warranted for PWE with psychopathology.

Introduction

People with epilepsy (PWE) are at a heightened risk for the development of depression compared to the general population and those with other chronic illnesses [1–3]. Depression in PWE is associated with many negative consequences, including complications with epilepsy management [1,4] and poorer quality of life (QoL) [5–8]. Depressive disorders are also significantly associated with increased suicide risk and completed suicide in PWE [9–11]. Suicide risk is defined as a set of behaviours and thoughts that increase the likelihood that a patient will make a suicide attempt, including previous attempts, passive or active suicidal ideation and suicidal plans [12]. Several studies report disturbingly high rates of suicide risk and completed suicide in PWE [9,13–15] even after controlling psychiatric history [16]. Despite these alarming findings, depression and suicide risk often remain unidentified and untreated in PWE [1,2,9,17].

Following a review of 36 papers that assessed neuropsychiatric correlates of mood difficulties in PWE, Hermann and colleagues [2] concluded that there was little evidence for the predictive value of sociodemographic or condition-related factors, including medication and seizure variables. On the other hand, the review found that although psychosocial variables were least often assessed they were the strongest predictors of mood difficulties in PWE. Consistent with the Hermann and colleagues [2] review, results from a recent systematic review of 11 studies to assess the role of psychosocial variables in the prediction of psychopathology in PWE found that ten (>90%) studies reported at least one significant psychosocial predictor of depression [18]. The identification of psychosocial predictors of depression has important treatment implications as unlike other risk factors, which are either relatively stable (neuroepilepsy and sociodemographic) or unavoidable (medication), psychosocial variables are amenable to change.

Of the consistent predictors identified in the systematic review [18] coping variables predicted the largest unique variance in mood difficulties across studies [19–21]. However, each study utilized a different measure to assess different strategies, making the identification of

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helpful and unhelpful coping strategies more complicated. The review also found clear support for the role of social support, and likely support for the influence of stress [22,23] and self-efficacy [22,24]. Some (albeit inconsistent) support for the role of illness representations was also suggested by two studies [19,20]. In contrast, there was a lack of evidence for stigma-related [23,25] and attributional-theory variables, including health locus of control [23,26,27], in predicting depression.

To date, there has been a relative lack of research investigating predictors of suicide risk (suicidal ideation and attempts) in PWE beyond that of psychiatric history which is well established [e.g. 9, 11, 16]. Furthermore, the majority of the research in this area has focused on retrospective file reviews of completed suicide [e.g. 10, 16] which only address the most severe manifestation of suicidal behaviour and do not allow for an investigation of psychosocial predictors. One recent study to assess demographic predictors of suicidal ideation in 139 PWE living in Brazil found that participants who were unemployed were five times more likely to report current suicide risk [13]. However, other psychosocial predictors are unknown.

A recent systematic review also highlighted a number of theoretical and methodological issues that have limited the ability to make conclusions about the most important psychosocial predictors of psychopathology in PWE [18]. The primary limitations included: (1) the use of small, unrepresentative samples of PWE; (2) the presence of confounding medical/demographic variables; (3) the predictive measurement of a single psychosocial variable only; (4) a lack of theoretical frameworks to guide selection of psychosocial variables. Importantly, (5) all previous studies utilized self-report measures of depressive symptoms, some which have not been validated for use in PWE e.g. the Hospital Anxiety Depression Scale. There have been no studies to date that have assessed predictors of clinically diagnosable depression based on a validated diagnostic interview.

The epilepsy literature has also progressed in relative isolation to the wider clinical health literature that has adopted theoretical frameworks to guide the examination of psychosocial correlates of mental illness [20]. Health psychology has proposed a range of useful theories that account for the way in which people respond to and manage an illness, such as the health belief model [28], theory of planned behavior [29] and the self-regulation model (SRM) [30]. However, the focus of many of these models is on behaviors that are in response to a health threat. Sharpe and Curran [31] proposed a model of adjustment to illness that was based upon the overlap between these models and theories about the development of psychological disorders, such as depressive disorders (e.g. [32]).

According to the model, when individuals are diagnosed with an illness they develop beliefs about the illness (illness representations), including how serious, long-term and controllable they believe it is [31]. Consistent with the SRM [30], these beliefs guide the way in which patients attempt to cope with the illness. In particular, those who are very distressed by their illness and, for instance, hold the beliefs that it has many negative consequences, are thought to cope in ways that aim to reduce the distress, rather than dealing with the illness itself. However, it is when the person's illness interferes so strongly in their quality of life that some individuals develop an enmeshment between the illness and self [31]. That is, people come to define themselves *as the illness* rather than identify themselves as *a person with an illness*. Sharpe and Curran [31] argue that the enmeshment of illness and self, negative illness representation and unhelpful styles of coping, are strongly associated with psychopathology. Although there is evidence to support the main premises of this model in a range of illnesses, including rheumatoid arthritis (RA) [33,34] and lupus [35], this model has not been tested in the context of epilepsy.

The present study aims to address the limitations of the previous research by investigating a range of psychosocial factors and exploring their unique relationship with a formal diagnosis of depression and suicide risk determined by diagnostic interview in a consecutive sample of PWE, based on a theoretical model of adjustment to illness [31]. We aim to assess whether the factors in this model, (i.e. illness representations, coping and self-illness enmeshment) are associated with depression and suicide risk. In addition, we included measurement of self-efficacy to ensure that this construct (which has consistently been found to be negatively associated with psychopathology in PWE) could not better account for the findings. We hypothesized that negative illness representations, avoidant coping and self-illness enmeshment would all add unique variance to the prediction of depression and suicide risk, while controlling for relevant demographic/condition-related variables and self-efficacy.

Methods

Participants

Participants were recruited from a comprehensive epilepsy service at the Royal Prince Alfred Hospital (RPAH) in Sydney Australia from November 2009 to September 2011. They were invited to take part in this research following participation in a larger study comparing the efficacy of two screening measures for depression in PWE. A detailed description of the recruitment and procedure has been previously reported [36].

To be eligible for this study patients had to (1) provide written informed consent; (2) have a formal diagnosis of epilepsy according to the ILAE criteria and confirmed by treating neurologist (AM) [37]; (3) be ≥18 years of age; (4) be of at least average range IQ as estimated by a score of ≥80 on the National Adult Reading Test (NART) [38] and (5) be fluent in English. This study had ethical approval of the Sydney West Area Health Service Ethics Review Committee (RPAH Zone) which was ratified by the University of Sydney Ethics Committee.

Of the 147 participants (original recruitment rate = 91%) invited to the current study following participation in Gandy et al.'s [36] study, two declined participation due to insufficient time. One participant was subsequently excluded due to a NART score <80. A further 21 (15%) failed to return completed questionnaires, despite two reminder phone calls. Data were therefore available for 123 of the original 147 participants (84% recruitment rate).

Measures

Demographic/condition-related variables

Participants were asked to complete a questionnaire of their demographic and epilepsy details. This included reporting their current relationship, highest educational and current employment status. They also reported the age of onset of epilepsy, current average frequency of seizures, and the number of anti-epileptic drugs (AEDs).

Dependent variables (DV)

Depression

The presence of a depressive disorder was assessed using the Mini International Neuropsychiatric Interview (MINI) 5.0.0 Version 1.1.02 [12]. This included MDD and dysthymia following DSM-IV and ICD-10 diagnostic criteria. The MINI has been found to have good psychometric properties when compared with other gold standard diagnostic interviews, such as the Composite International Diagnostic Interview [12,39]. A diagnosis was coded as either being present (1) or absent (0).

Suicidal risk status

The suicide module in the MINI 5.0.0 Version 1.1.02 was used to assess level of suicide risk [12]. This includes five questions that assess suicidal ideation, plan and attempt within the past month and