The Impact of Event Scale (IES)

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Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of Event Scale: a measure of subjective stress. *Psychosomatic Medicine*, 41, 209 – 218.

Variable: Stress reactions after a specific traumatic event

The IES is based on a two-factor "intrusion-avoidance" model of reactions to stressful life events. Items for the IES were developed from statements most frequently used to describe episodes of distress by those who had experienced a recent stressful life event (Horowitz et al., 1979). It measures the frequency of intrusive and avoidant phenomena. Intrusions are characterised by "unbidden thoughts and images, troubled dreams, strong pangs or waves of feelings, and repetitive behaviour. Avoidance responses are characterised by "ideational constriction, denial of the meaning and consequences of the event, blunted sensation and behavioural inhibition or counter phobic activity, and awareness of emotional numbness".

The IES is considered to have good internal consistency. Sundin & Horowitz (2002) reported mean Cronbach's alpha coefficients across 18 studies of 0.86 for intrusion and 0.82 for avoidance. The IES has been used as a measure of cancer-specific distress in a number of studies within the psychosocial cancer genetics literature (e.g., Lloyd et al., 1996; Zakowski et al., 1997; Kent et al., 2000). Thewes et al. (2001) reported that the IES has good internal consistency and test re-test reliability amongst women at increased risk of breast cancer.

Reliability: Horowitz et al. (1979) reported satisfactory internal consistency - Cronbach's alpha = 0.86 for the total IES, 0.78 for intrusion, and 0.82 for avoidance. Thewes et al. (2001) examined the psychometric properties of the IES amongst women at increased risk for hereditary breast cancer, and internal consistency coefficients were found to be uniformly high - Cronbach's alpha = 0.91 for the total IES, 0.88 for intrusion, and 0.84 for avoidance.

Horowitz et al. (1979) report a test-retest reliability of $r = 0.89$ for intrusion and $r = 0.79$ for avoidance, over 1 week. Thewes et al. (2001) examined test-retest reliability over 14 days and the correlation coefficients were $r = 0.75$ for intrusion, $r = 0.78$ for avoidance, and $r = 0.80$ for the total IES.

Validity: Face validity: Thewes et al. (2001), through a qualitative analysis of participants' responses, found that the majority of their participants believed that the IES measured anxiety, worry or emotional wellbeing. Whilst some believed it was not directly relevant to them, the majority of women thought that the scale was relevant to women with a family history of breast cancer. Some women, however, felt that the response options available were inappropriate if they had not thought about breast cancer at all. Lloyd et al. (1996) included an "opt out" box for participants to tick if they had not thought about breast cancer at all in the past week. Thewes et al. (2001) support the continued use of this strategy.

Construct validity: Factor structure of the IES. The two-factor (Intrusion and Avoidance) factor structure originally reported by Horowitz et al. (1979) was replicated by Thewes et al. (2001) using a principal components factor analysis technique. With the exception of Item 12, the two-factor solution accounted coherently for factor loadings. Item 12 was found to load on both factor solutions. These findings suggest that this item might tap into both constructs in this particular population, and that it may be prudent to discard the item in future studies involving women at high risk of developing breast cancer.

Discriminative validity: Thewes et al. (2001) examined correlations between scores on the IES and a number of other standardised measures of psychological distress. Correlations between the IES and other measures of generalised / current psychological distress (BDI, STAI, GHQ-28) were found to be lower than correlations between the three measures of generalised distress, which suggests that the IES measures a construct which is at least partially distinct from generalised / current psychological distress.

Convergent validity: Thewes et al. (2001) found significant correlation between breast cancer-related events and attitudes and scores on the IES. This provides evidence for the convergent validity of the IES as a measure of cancer–specific anxiety.

Scoring:

The scale consists of 15 items:

- Seven intrusion items (Q1, Q4, Q5, Q6, Q10, Q11, Q14) and
- Eight avoidance items (Q2, Q3, Q7, Q8, Q9, Q12, Q13, Q15).

Participants rate the frequency of intrusive and avoidant cognitions and behaviours using a four-point frequency scale (1, 2, 3, 4).

The IES allows the calculation of a total score (with a possible range of 0 – 75) and separate intrusion and avoidance subscales scores (with a possible range of 0 –35 and 0 –40, respectively).

To analyse the data from the IES, the raw scores are recoded as follows: 1=0; 2=1; 3=3; 4=5.

According to Horowitz (Horowitz (1982) and personal communication, 1999; 2004), scores on the global IES can be broken down into the following categories: low distress (scores below 8.5), medium distress (scores between 8.5 and 18) and high distress (scores of 19 or more).

Examples of items on the intrusion sub-scale include:

I thought about it when I didn't want to

I had waves of strong feelings about it
Pictures of it popped into my mind

The avoidance sub-scale measures the frequency of avoidance of these intrusive thoughts and consisted of eight items on the same four-point scale

Examples of items on the avoidance sub-scale include:

I tried not to think about it

I stayed away from reminders of it

I avoided letting myself get upset when I thought about it

References: Horowitz M. Stress response syndromes and their treatment. In L. Goldberger & S. Breznitz (Eds.) *Handbook of stress: Theoretical and clinical aspects* (pp. 711 – 732). New York: Free Press, 1982.

Thewes B, Meiser B, Hickie I B. Psychometric properties of the Impact of Event Scale amongst women at increased risk of hereditary breast cancer. *Psycho-Oncology* 2001:10: 459 – 468.