Use of the Health History Checklist (HHC) to Detect Patients Experiencing Psychogenic Non-Epileptic Events (PNEE) on a Long-Term Monitoring Unit

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Introduction

• Psychogenic non-epileptic events (PNEE), formerly termed psychogenic seizures, pseudoseizures, and hysterical seizures, are episodes of involuntary movement, altered responsiveness, and/or altered subjective experience that resemble epileptic seizures (ES), but that are not accompanied by the abnormal electrical activity in the brain indicative of ES (Lesser, 1996; Reuber and Elger, 2003).

• Patients experiencing PNEE are often reported as having heightened levels of somatization, suggestibility, and dissociation, (Bowman, 2006; Goldstein et al., 2000). Consequently, individuals with a history of PNEE may often be diagnosed with a somatoform disorder (specifically Conversion disorder).

• The Health History Checklist (HHC) is a brief checklist of physical symptoms that maps on to DSM-III diagnostic criteria for Somatization disorder. Patients mark symptoms experienced over their lifetime in each of five domains:

- Gastrointestinal Problems (e.g,. Vomiting, nausea, bloating)
- Pain Symptoms (e.g., back pain, joint pain)
- Cardiopulmonary Symptoms (e.g., palpitations, chest pain)
- Urologic/Gynecologic Symptoms (e.g., impotence, sexual indifference, pain during intercourse)
- Nervous System Symptoms (e.g., amnesia, blurred vision, seizure or convulsion)

• The aim of the current study was to differentiate between PNEE and ES using patients' responses on the HHC.

Sample Characteristics

• 170 inpatients (145 men; 25 women) referred by the neurology department at the Houston VAMC.

• Patients were undergoing weeklong observation on an epilepsy monitoring unit to establish the presence of genuine or psychogenic seizures.

• Patients ranged in age from 22 to 83 years (*M* = 50.2; *SD* = 13.2).

• Racial/ethnic characteristics: 112 Caucasian (66%), 44 African-American (26%), 12 Hispanic (7%), and 2 Asian-American/Pacific Islander (1%).

Method

•The HHC was administered to the inpatients as part of a larger neuropsychological screening evaluation.

• Group membership (epilepsy vs. PNEE) was determined by a board-certified neurologist and director of the epilepsy program.

• Diagnostic classification statistics were calculated for the HHC after dividing the sample into two groups. The first group only included patients diagnosed using "gold standard" video EEG (vEEG) findings following induction (n=93). The second group included all 170 patients; diagnosis was based on vEEG, clinical observation, or self-reported semiology.

Results

•Using a cut-score of >15 items endorsed, The HHC demonstrated adequate diagnostic classification statistics in patients diagnosed using vEEG (Table 1; SE=.33, SP=.88).

• Using the same cut-score (>15) in patients with a more ambiguous clinical presentation, the HHC demonstrated improved sensitivity and slightly-reduced specificity (Table 2; SE=.41, SP=.85).

Table 1.
Patients diagnosed using vEEG and induction (n=93)

Cut-Score	SE	SP
10	.60	.68
11	.52	.68
12	.46	.73
13	.40	.78
14	.35	.85
15	.33	.88
16	.27	.90
17	.27	.93
18	.25	.93
19	.17	.93
20	.12	.98

Table 2.
Patients diagnosed using vEEG, clinical observation, and reported semiology (n=170)

Cut-Score	SE	SP
10	.67	.66
11	.59	.69
12	.53	.73
13	.49	.77
14	.44	.81
15	.41	.85
16	.34	.88
17	.32	.92
18	.30	.92
19	.25	.93
20	.18	.97

Discussion

• The HHC is a promising measure of somatization that, owing to its brevity, can be included as a brief screener during neuropsychological evaluations. However, until additional research has been conducted, the HHC should only be used in conjunction with other well-validated instruments.

• There are two primary limitations of this study. First, due to time constraints, not all patients were induced. This led to a selection bias that may have inflated the sensitivity of the HHC. Second, 12 inpatients exhibited both confirmed epilepsy and PNEE and were thus excluded from the study sample.