



## Brief Communication

# The coping styles and health-related quality of life of South African patients with psychogenic nonepileptic seizures



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## ARTICLE INFO

## Article history:

Received 29 July 2013

Revised 17 September 2013

Accepted 29 September 2013

Available online 26 October 2013

## Keywords:

Nonepileptic seizures

Health-related quality of life

Coping

Stigma

Stress

Conversion

South Africa

## ABSTRACT

**Objective:** The primary aim of this study was to explore a possible association between the coping styles and the health-related quality of life (HRQOL) of patients with psychogenic nonepileptic seizures (PNES) in the South African context.

**Methods:** Twenty-two patients with PNESs with confirmatory video-EEG were matched by age and gender with a healthy control group. Participants had to complete self-reported measures of HRQOL and coping strategies. Data analysis consisted of performing Pearson correlations, analysis of variances, and regression analysis.

**Results:** The results indicated that the HRQOL scores of the group with PNESs were significantly lower than the HRQOL scores of the healthy control group. The participants with PNESs utilized significantly more escape-avoidance and distancing coping strategies in comparison to the healthy control group. The results also indicated that the avoidance coping strategies utilized by participants with PNESs had a significant negative effect on their HRQOL.

**Conclusions:** The findings of this study provided greater insight into the coping strategies utilized by participants with PNESs, which have been identified as risk factors in PNESs. This is the first study of this nature of people with PNESs in South Africa.

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## 1. Introduction

Psychogenic nonepileptic seizures (PNESs) are episodes that resemble epileptic seizures but are not associated with abnormal electric discharges in the brain. These episodes may be caused by an underlying psychic conflict or psychological problem and are usually considered to be beyond patients' voluntary control [1]. Psychogenic nonepileptic seizures are manifestations of debilitating diseases that necessitate several adjustments in a patient's life, and that may become chronic.

Factors that might influence the HRQOL in patients with PNESs are still poorly understood. Previous research indicates that depression, aspects of family functioning [2], and seizure frequency [3] may be associated with low HRQOL in patients with PNESs. Research focusing on chronic illnesses indicates that coping styles play a major role in HRQOL [4,5].

The literature on PNESs suggests that avoidance coping is a prominent coping strategy for patients with PNESs [6–8]. Avoidance coping can be seen as a deliberate effort to avoid the problem [9]. Moreover, research has shown that the scores of patients with PNESs on the HRQOL measure are significantly lower than those of groups with epilepsy and healthy control groups [2,7].

Therefore, it can be hypothesized that an individual's personal coping style may play an important role in his/her quality of life. However, no research into the association between specific coping styles and HRQOL of patients with PNESs could be found. Therefore, the primary aim of this study is to explore if a relationship between coping styles and the HRQOL of patients with PNESs exists.

## 2. Methods

Participants were recruited over a 9-month period from the Epilepsy Unit at the Constantiaberg Medi-Clinic and the Department of Neurology at the Tygerberg Hospital in the Western Cape of South Africa. Patients with PNESs (aged 14 years and older) with confirmed video-EEG were included in the study. Patients with PNESs with comorbid epilepsy were excluded from the study. Although most of the PNES studies compare patients with PNESs with patients with epilepsy as a control group, the validity of such a comparison is questionable [7]. Therefore, this study compared the results with those of a healthy control group.

Participants in the healthy control group were matched by age and gender and were excluded from the study if they had a history of seizures of any kind and/or had been diagnosed with a psychiatric/psychological disorder within the past year. Advertisements and flyers were used to attract participants for the healthy control group. The advertisements and flyers were put up at a private practice of a general practitioner and at Stellenbosch University. A reason for this recruitment technique was the time limit of the study. Another reason was

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to attract participants with similar socioeconomic status and education levels. In South Africa, only people who have access to medical aid utilize the services of a private practitioner or private hospital, which is where most of the patients with PNEs were recruited from. The unknown prevalence rate of PNEs in South Africa made it difficult to determine the type and number of participants to select for the healthy control group beforehand.

This was a quantitative cross-sectional study that formed part of a larger study. Ethical approval for this study was obtained from the Health Research Ethics Committee at Stellenbosch University (protocol number: N11/08/267). Participants had to give written informed consent to participate in this study. Participants also had to complete a demographic questionnaire as well as self-reported measures of HRQOL (SF-36v2 Health Survey) [10] and coping strategies (Ways of Coping (WOC)) [9].

Analyses of variances were performed to explore the differences between the group with PNEs and the healthy control group on the various measurement instruments. The association between specific coping strategies and HRQOL was investigated by calculating Pearson's correlation coefficient. Multiple regressions were conducted to determine the extent to which HRQOL could be accounted for by each of the coping strategies.

### 3. Results

Forty-four participants (22 in the group with PNEs and 22 in the healthy control group) completed the study. Most of the participants with PNEs (17 of the 22) were female. The mean age of the group with PNEs was 32.77 years (with a SD of  $\pm 14.40$ ). Although the participants with PNEs of this study were only matched with the healthy control group by age and gender, the distribution of the socioeconomic status of these groups was very similar. Most of the participants with PNEs and control group participants regarded their household income as falling within the middle-income group. Half of the group with PNEs and the control group were single, and the other 50% were married. In both groups, more than a third of the participants were employed full-time. Only 24% of the participants with PNEs had received tertiary education, whereas 59% of the control group had received tertiary education.

The results indicated that the HRQOL scores of the group with PNEs were significantly lower than the HRQOL scores of the healthy control group on all the SF-36v2 subscales, as indicated in Table 1. The results

**Table 1**  
ANOVA results of the SF-36v2 Health Survey and the WOC for the group with PNEs and the control group.

	PNEs (n = 22)		Control (n = 22)		F	p
	Mean	±SD	Mean	±SD		
<i>SF-36v2 subscales (0–100)</i>						
General health	56.29	±23.62	90.91	±9.08	41.20	<0.01***
Physical functioning	65.00	±30.59	95.00	±8.86	19.52	<0.01***
Role limitation: physical	42.90	±35.53	96.31	±6.30	48.20	<0.01***
Role limitation: emotional	43.94	±35.28	93.56	±16.05	36.06	<0.01***
Social functioning	35.23	±30.04	93.18	±18.79	58.86	<0.01***
Bodily pain	41.48	±27.27	91.71	±10.62	64.79	<0.01***
Vitality	41.76	±21.16	72.16	±17.11	27.44	<0.01***
Mental health	51.21	±20.50	88.79	±7.91	64.33	<0.01***
<i>Ways of Coping Questionnaire subscales</i>						
Confrontive coping	8.41	±4.54	7.09	±4.43	.95	.33
Self-controlling	11.82	±5.46	10.09	±3.19	1.64	.21
Seeking social support	10.27	±5.48	9.59	±4.71	.20	.66
Planful problem solving	9.77	±4.70	10.64	±4.41	.40	.53
Distancing	9.32	±5.01	6.64	±3.44	4.28	.05*
Accepting responsibility	5.73	±4.23	4.45	±3.04	1.31	.26
Escape-avoidance	13.05	±6.43	6.27	±5.28	14.56	.00***
Positive reappraisal	11.36	±6.62	12.18	±4.65	.23	.64

\*  $p < .10$ .

\*\*\*  $p < .01$ .

**Table 2**

Pearson's correlation between the HRQOL and WOC for the group with PNEs.

Ways of Coping Questionnaire subscales	R	p
Confrontive coping	-.05	.83
Self-controlling	-.33	.14
Seeking social support	-.07	.80
Planful problem solving	-.12	.60
Distancing	-.18	.43
Accepting responsibility	-.27	.22
Escape-avoidance	-.40	.07*
Positive reappraisal	-.25	.25

\*  $p < .10$ .

show a significant difference between the mean scores of the group with PNEs and the healthy control group on two of the WOC subscales, the *escape-avoidance* and *distancing* subscales.

The results also indicated (refer to Table 2) that the *escape-avoidance* coping strategy correlated significantly with a negative HRQOL for patients with PNEs.

Table 3 illustrates the results of the best-subset regression analysis that was conducted to determine which of the eight coping strategies of the WOC predicted HRQOL. The summary of the best-subset regression indicated that the subscales *self-control*, *seeking social support*, *accepting responsibilities*, and *positive reappraisal* did not contribute to a better fit ( $R^2$ ) of the regression model; therefore, they were excluded from the multiple regression analysis.

As illustrated in Table 3, the *escape-avoidance* coping strategy was a significant negative predictor of HRQOL ( $\beta = -3.44$ ,  $p < .01$ ). The *distancing* coping strategy was a significant negative predictor (at the 10% significance level) of HRQOL ( $\beta = -1.40$ ,  $p < .10$ ). However, the *confrontive* coping strategy was the only significant positive predictor (at the 5% significance level) of HRQOL ( $\beta = 2.52$ ,  $p < .05$ ). Further, Table 3 illustrated that the four subscales of the WOC scale together accounted for 56% of the variance in the HRQOL total score of this sample. This result was significant at the 1% level ( $F(4,39) = 12.45$ ,  $p < .00000$ ). These results indicate that the coping strategies used by the participants may have a significant effect on their HRQOL.

### 4. Discussion

Research focusing on self-report investigations found that patients with PNEs were more likely to use *escape-avoidance* coping styles to manage stress than the healthy control groups [6,8]. The findings of a study that investigated automatic threat-avoidance tendencies of patients with PNEs in relation to stress and cortisol levels were in line with the findings of the abovementioned self-report studies. They also found that patients with PNEs showed increased avoidance behavior to social threat cues [11]. Thus, our findings support the notion that patients with PNEs tend to avoid rather than approach stressful situations [6,12]. Research has also theorized that the tendency of avoidance behavior in individuals may make them more vulnerable to developing PNEs [6,11].

In support of Frances et al. [6], but contrary to the findings of Goldstein et al. [8], the patients with PNEs in this study scored significantly higher

**Table 3**

Multiple regression of the SF-36v2 Health Survey on the WOC scale.

Predictor	Standardized $\beta$	Std. error of B	B	t-Ratio	p
Confrontive coping	.42	.16	2.52	2.70	.01**
Planful problem solving	.18	.12	1.08	1.5	.14
Distancing	-.23	.13	-1.40	-1.81	.08*
Escape-avoidance	-.87	.15	-3.44	-5.88	.00***

$F(4,39) = 12.45$ ,  $R = .75$ ,  $R^2 = 56\%$ ,  $R^2$  (adjusted) = 52%,  $SE = 18.62$ .

\*  $p < .10$ .

\*\*  $p < .05$ .

\*\*\*  $p < .01$ .

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