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**Genetic Correlates, Demographic Factors, and Medical Characteristics
Associated with Fatigue in Individuals with End Stage Renal Disease**

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Purpose: To examine the association between NPAS2 gene expression, demographic variables, dialysis specific factors and medical characteristics with the phenotypic characteristic of fatigue in individuals with end stage renal disease (ESRD). Fatigue is a prevalent and challenging symptom experienced by individuals with ESRD. Fatigue is associated with decreased quality of life and increased mortality in individuals with ESRD, yet causes of fatigue remain poorly understood.

Method: One-hundred and twenty-two individuals with ESRD were enrolled in this cross-sectional, descriptive study. Gene expression was examined utilizing quantitative Polymerase Chain Reaction (qPCR). Patient-reported fatigue was examined utilizing the Fatigue Assessment Scale (FAS) and Functional Assessment of Chronic Illness Therapy – Fatigue Scale (FACIT-F). Independent samples t-tests and multivariable regression analyses were used to analyze the data.

Results: A total of 50% (n= 61) participants were classified as having fatigue according to the FAS and 29% (n= 36) were classified as having severe fatigue when examining the FACIT-F. The phenotype of fatigue was not significantly associated with gene expression of NPAS2. The phenotype of fatigue was significantly associated with depression (p < .001).

Conclusions: This study suggests further research should examine the causal mechanism between depression and fatigue, in order to identify genetic factors that could potentially explain the high comorbidity of depression and fatigue.

Implications: Nephrology nurses need to acknowledge the prevalent symptom of fatigue in this patient population, recognize the ability to utilize simple and quick questionnaires' such as the FAS and FACIT-F to determine fatigue and to closely monitor the association between fatigue and depression in individuals with ESRD on HD in order to identify and mitigate this symptom.

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