A Predictive Model of the Effects of Depression, Anxiety, Stress, Six Minute Walk Distance, and Social Support on Health Related Quality of Life in the Adult Pulmonary Hypertension Population

T. Tartavoulle MN, RN, CNS
LSUHSC - School of Nursing, New Orleans, La.

PURPOSE: The purpose of this research study was to (a) identify relationships among the psychologic factors (depression, anxiety, stress), physiologic factor (six minute walk test), situational factor (social support) and health related quality of life and (b) identify psychologic factors (depression, anxiety, stress), physiologic factor (six minute walk test), and situational factor (social support) that best predicts health related quality of life in adults with pulmonary hypertension.

BACKGROUND/SIGNIFICANCE: Pulmonary hypertension (PH) is a progressive and ultimately fatal disease. The ultimate goal is to reduce the symptomatic disease burden associated with PH and increase the client’s health related quality of life. Despite the pharmacologic advances in the last several years that has been associated with the improvement in the hemodynamic profile of the PH client, many PH clients continue to experience a reduction in health related quality of life as seen in an increase in depression, anxiety, stress, fatigue, dyspnea, and panic attacks.

METHOD: A cross-sectional, predictive, correlational study was designed to examine a path model depicting the relationships among depression, anxiety, stress, six minute walk test, social support and health related quality of life. Data was collected via retrospective medical record review, client review and concurrent administration of data collection instruments (Depression Anxiety Stress Scale-21 and Dartmouth Cooperative Functional Assessment Charts).

FINDINGS: The research study included a convenience sample of 166 subjects from the Pulmonary Hypertension Association’s 10th International Pulmonary Hypertension Conference and Scientific Sessions in Orlando, Florida and a pulmonary hypertension clinic in Southeast Louisiana. A moderate linear correlation was identified among depression ($r = 0.545, p < 0.01$), anxiety ($r = 0.387, p < 0.01$), stress ($r = 0.432, p < 0.01$), six minute walk test ($r = 0.248, p < 0.01$), social support ($r = 0.459, p < 0.01$) and health related quality of life. Depression was prevalent in 32.5% ($n = 54$), anxiety 62% ($n = 103$), stress 39.8% ($n = 66$), and a reduction in social support was reported by 29.5% ($n = 49$). Thirty nine percent ($n = 64$) walked less than 301 meters for the 6MWT. A reduction in health related quality of life was reported by 44.6% ($n = 74$) of the sample.

The data obtained fit the proposed formulations for the Predictive Model for Adult Pulmonary Hypertension Health Related Quality of Life, however, because of the covariances among the variables (depression, anxiety, stress, social support, 6MWT); it was not possible to predict which variable best predicted health related quality of life in the adult PH population.

IMPLICATIONS: Pulmonary hypertension is a progressive disease without a cure; however, the management of PH continues to evolve. There has been an increase in the number of pharmacologic therapies in the past decade that improve hemodynamic profile of the adult PH client without a resultant increase in health related quality of life. The findings indicate depression, anxiety, stress, six minute walk distance, and social support play important roles in health related quality of life among clients with PH. Nursing strategies to increase health related quality of life in PH clients include counseling, psychiatric referrals, psychotherapy, guided imagery, leading support groups, and low grade resistance training. By understanding the complexity of PH, assessing for the concepts of depression, anxiety, stress, and social support, and evaluating 6MWT distance, nursing will be able to identify these concepts in their early stages and provide the best possible interventions to improve client outlook and health related quality of life.