

Applied Canonical Correlation Analysis to Explore the Relationship between Resourcefulness and Quality of Life in Cancer Population

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Abstract : Cancer has been one of the most life-threatening diseases worldwide for 30+ years. The influences of cancer illness include symptoms from cancer itself along with its treatments. The quality of life among patients diagnosed with cancer during cancer treatments has been conceptualized within four domains: Functional Well-Being, Social Well-Being, Physical Well-Being, and Emotional Well-Being. Patients with cancer often need to make adjustments to face all the challenges. The middle-range theory of Resourcefulness and Quality of life has been applied to explore factors contributing to cancer patients' needs. Resourcefulness is defined as sets of skills that can be learned and consisted of Personal and Social Resourcefulness. Empirical evidence also supported a possible relationship between Resourcefulness and Quality of Life. However, little is known about the extent to which the two concepts are related to each other. This study, therefore, applied a multivariate technique, Canonical Correlation Analysis, to identify the relationship between the two sets of variables with multi-dimensional measures, the Resourcefulness and Quality of Life in Cancer patients receiving treatments. After IRB approval, this multi-centered study took place at two medical centers in the Central Region of Taiwan. Sample A total of 186 patients with various cancer diagnoses and either receiving radiation therapy or chemotherapy consented to and answered questionnaires. The Important findings of the Generalized F test identified two typical sets with several linear relations and explained a total of 79.1% of the total variance. The first typical set found Personal Resourcefulness negatively related to Social Well-being, Functional being, Emotional Well-being, and Physical, in that order. The second typical set found Social Resourcefulness negatively related to Functional Well-being and Physical-being yet positively related to Social Well-being and Emotional Well-being. Discussion and Conclusion, The results of this presented study supported the statistically significant relationship between two sets of variables that are consistent with the theory. In addition, the results are considerably important in cancer patients receiving cancer treatments.

Keywords : cancer, canonical correlation analysis, quality of life, resourcefulness

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