Relationship of Locus of Control and Depression to Treatment Adherence in Gynecologic Oncology Patients

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Objective
To explore the prevalence of depression before commencing treatment, and determine whether treatment adherence can be predicted by initial depression and Health Locus of Control, in a prospective cohort of patients diagnosed with uterine, ovarian, or cervical carcinoma undergoing chemotherapy and/or radiation.

Methods
Subjects: Adult patients with first time diagnosis of uterine cancer, ovarian cancer or cervical cancer who were prescribed and agreed to undergo chemotherapy and/or radiation therapy as their primary treatment at our university hospital; who were able to complete questionnaires in English. Patients were enrolled from June 15, 2012 – March 6, 2014.

Instruments: 1) PHQ-9 questionnaire to screen for depression. 2) The Multidimensional Health Locus of Control (MHLC) questionnaire (Wallston) to assess the subject’s health locus of control in the domains labeled “Internal”, “Chance” and “Powerful Others”. The Internal domain assesses the extent to which the person thinks she is in control of what happens to her health (possible score range 6 - 36, higher numbers indicate stronger belief), Chance to what extent chance influences health outcome, and Powerful Others to what extent health care professionals are in control of health outcome.

Procedure: Eligible subjects were approached by a member of the investigatory team at a clinic visit before treatment or the first treatment session of chemotherapy or radiation. After written informed consent, the subjects were administered a demographic psychosocial questionnaire, PHQ-9 and MHLC. At the completion of the initially prescribed chemotherapy and/or radiation treatment visits, adherence to treatment, lab and clinic visits was assessed as proportions of prescribed visits attended. The data were analyzed using SPSS software. A 2-tailed significance level of 0.05 was used for correlation co-efficients and ANOVA.

Results
n=31, mean adherence 0.81±0.32, 95% confidence interval 0.69 – 0.93 and high internals (scoring above median, n=25, mean adherence 0.97±0.08, 95% confidence interval 0.94 – 1), (F 5.6, df 1,54, p=0.02). The two other MHLC domains were not related to any of the adherence measures by correlation or ANOVA. Chemotherapy adherence was strongly correlated to clinic visit adherence (r 0.53, p<0.001) and lab visit adherence (r 0.59, p<0.001), but not to radiation treatment adherence. Radiation treatment adherence was strongly correlated to clinic visit adherence (r 0.58, p=0.001), but not to lab visit adherence.

Conclusion
1) Depression is low prior to initiation of cancer treatment. 2) Internal locus of control is positively related to chemotherapy adherence. 3) Depression, and the “Chance” and “Powerful Others” domains of health locus of control are not related to treatment adherence. 4) Clinic visit adherence is strongly positively related to chemotherapy and radiation treatment adherence.

If future studies replicate these findings, assessment of internal locus of control at the initiation of treatment may identify a subgroup of patients who may have difficulties with adherence to chemotherapy, and may be helped with more adherence counseling or other assistance. Whether promotion of clinic visit adherence promotes chemotherapy and radiation treatment adherence needs to be studied in future studies. Whether more patients develop depression later on with the burden of treatment needs to be studied.

References