Self-Reported Depressive Symptoms and Age Predict Medication Adherence in Successful Renal Transplant Patients.

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ABSTRACT

We have recently reported diminished cognitive functioning, and increased depressive symptoms following kidney transplant, which may have implications for medication adherence. This study assessed the ability of self-reported depression to predict adherence in this group. We examined the utility of the four factors of the CES-D to predict adherence. Forty-four renal transplant patients completed the CES-D and Transplant Effects Questionnaire (TxEQ), and the relationship between scores on these measures was examined. After, controlling for age, gender, and education, increased CES-D score predicted decreased adherence. In looking at the separate factors of the CES-D, and controlling for age, only the Positive Affect (PA) factor significantly predicted adhered; increased positive affect predicted lower adherence. Increased age also predicted decreased adherence. Older age and positive affect may be important modifiers of adherence in these patients, and the CES-D PA factor may be a good predictor of medication adherence in this group.

INTRODUCTION

• Depression is prevalent in post-transplant patients
• Participants who have received renal transplants score significantly higher on a measure of distress (a composite score of the CES-D and the Multidimensional Anxiety Questionnaire) than controls (Gelb et al., in press).
• Approx. 7.4% of renal transplant patients thought to be severely depressed; almost 15% considered mildly depressed (Akman et al., 2004).
• Depression leads to a decrease in self-esteem, and to treatment non-compliance, which could affect rate of patient survival (Akman et al., 2004).
• Depressive symptoms predictive of scores on objective adherence measures in older adults (Mackin & Areán, 2007), and younger HIV patients (Hinck et al., 2004).
• A study of 241 transplant recipients found that approx. 50% reported some degree of non-compliance (Frazier, Davis-Ali, & Dahl, 1994).
• In this study, we look at the different factors of the CES-D, and the ability of these to predict adherence in renal transplant participants.
• Higher scores on the CES-D are predictive of lower self-reported adherence in cardiovascular patients (Bane, Hughes, & McElroy, 2006), similar results are expected with renal transplant patients.
• Increased positive affect is related to increased medication adherence in adult HIV+ patients (Bogart et al., 2002); it is anticipated that there will be some effect of the positive affect factor of the CES-D in predicting adherence in this study as well.

METHODS

PARTICIPANTS

44 renal transplant patients were recruited from Vancouver General Hospital. Demographic and clinical characteristics are presented in Table 1. Inclusion criteria: at least 6 months stable renal function post transplant; capable of giving informed consent; and English fluency and a minimum of a grade 6 education. Exclusion criteria: history of other major systemic illnesses (e.g. cancer, other major organ failure); known central nervous system disease; previously identified cognitive or functional impairments, or psychiatric disorders.

MEASURES

Psychosocial Measure
• The Centre for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977) asks respondents to rate the frequency of various depressive symptoms over the past week.
• The Transplant Effects Questionnaire is a measure designed to assess organ recipients’ behavioral and emotional response following transplantation – the Adherence Subscale asks patients to evaluate their level of adherence (Ziegelmann et al., 2002).

RESULTS

• Examined relationship between CES-D total, and factor, scores and adherence.
• Controlling age, gender, and education, CES-D total score predicted adherence: increased depressive symptoms predicted decreased adherence ($F = 0.29$).
• Age was seen to have predictive power in these analyses, so this was entered on the first step of the hierarchical regression analysis.
• After controlling for age, only the Positive Affect factor of the CES-D predicted adherence ($F = 0.48$); decreased positive affect indicated lowered adherence.
• Age was a significant predictor of adherence in this equation - increased age predicted decreased adherence.
• Age and positive affect may be important modifiers of adherence in this group.

CONCLUSIONS

• Results are preliminary, but show that the CES-D Positive Affect factor is a good predictor of medication adherence in renal transplant patients, indicating its potential usefulness in assessing these individuals, and indicating that more specific aspects of depression may put patients at risk of non-compliance.
• Some limitations to the current study:
  • Measures used to quantify depressive symptoms, and adherence, are self-report and are susceptible to demand characteristics and other biases.
  • Self-report measures of medication adherence are often highly concordant with other estimates (Garber et al., 2004).
  • Exclusion criteria could limit generalizability of results to patients on the whole, as many have concurrent psychological or medical disorders.
  • Depressive symptoms are likely greater among those not meeting study criteria. Current findings may be relevant to these populations.
  • Longitudinal research could allow for a more comprehensive picture of interactions between different variables.

REFERENCES