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TITLE

Dyadic Relationships among Sense of Mastery, Cancer-Related Distress, and Salivary Cortisol in Patients and Caregivers Impacted by Advanced Abdominal and Pelvic Malignancies: Actor-Partner Interdependence Model (APIM) Analyses

HYPOTHESIS:

The current study hypothesized that higher self-reported sense of mastery in an individual would significantly predict lower cancer-related distress in that individual (actor effect) and his/her partner (partner effect). It was also hypothesized that significant dyadic effects of self-mastery/cancer-related distress on salivary cortisol would emerge, with greater self-reported sense of mastery associated with less salivary cortisol dysregulation (i.e. steeper, negative diurnal cortisol slope) for both an actor and his/her partner.

BACKGROUND/AIMS:

The Biobehavioral Model of Tumorigenesis posits that stress appraisals are associated with cancer outcomes via downstream effects on mood, glucocorticoid functioning (cortisol levels), and immunity. However, this model does not account for dyadic effects of stress appraisals on mood and cortisol, which is a gap in the literature given that there are an estimated 4 million caregivers aiding adult cancer patients in the United Sates, 66% of which are a spouse/partner. The purpose of the present study was to examine the dyadic effects of stress appraisals on cancer related distress (Aim 1) and stress appraisals/cancer-related distress on salivary cortisol slopes (Aim 2) in patients and caregivers affected by poor prognosis abdominal and abdominopelvic cancers.

METHODS:

Participants (patient-caregiver dyads) were enrolled in one of two preliminary studies employing the use of a participant-based qualitative research technique (Photovoice) as a prospective intervention for those impacted by advanced gynecologic malignancies (Study 1) and pancreatic cancers (Study 2). Only pre-Photovoice intervention data were analyzed. Both studies assessed self-mastery via the Sense of Mastery Scale (SMS; Pearlin et al., 1981) and cancer-related distress via the Intrusion and Avoidance Subscales on the Impact of Events Scale (IES; Horowitz et al., 1979). Salivary cortisol was assessed in Study 2 only. Saliva was collected in the AM and PM for three consecutive days as per Kraemer and colleagues (2005) and analyzed via ELISA. Analyses of Aim 1 consisted of 16 patients (N[females]=11, N[males]=5; M[age]=58.13[yrs], SD=9.33) and caregivers (N[females]=5, N[males]=11; M[age]=60.67[yrs], SD=14.93). Aim 2 analyses consisted of 10 patients (N[females]=4, N[males]=6; M[age]=57.80[yrs], SD=9.99) and caregivers (N[females]=6, N[males]=4; M[age]=53.60[yrs], SD=14.45).

RESULTS & CONCLUSIONS

APIM analyses measuring intra- and inter-personal dyadic effects of self-mastery on distress at pre-Photovoice indicated a significant partner effect (b=-1.42, SE=0.52). Contrary to hypotheses, higher caregiver self-mastery was associated with higher patient distress avoidance [t(13.0)=-2.714, p=0.018]. APIM analyses of self-mastery on salivary cortisol at pre-Photovoice did not yield significant results. However, there was a nonsignificant trend for a partner effect (b=-0.03, SE=0.01) of intrusion on salivary cortisol. Contrary to hypotheses, higher patient distress intrusion was associated with a steeper, negative (more normal) caregiver cortisol slope [t(4.19)=-2.318, p=0.085]. Qualitative methods (in progress) will be used to explore these unexpected results. In particular, transcripts of Photovoice sessions with dyads comprised of high self-mastery caregivers and high avoidant patients will be reviewed for themes pertinent to these results.