
Successful Dietary Changes in a Cardiovascular Risk Factor Reduction Intervention are Differentially Predicted by Characteristics of Stress

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The purpose of this study was to evaluate the role of psychosocial distress on change in cardiovascular risk factors for 740 participants in a 12-month case-managed multiple risk factor reduction program. Respondents at high risk for cardiovascular disease were identified from a self-report cardiovascular risk assessment. Signal detection methodology was used to identify predictors of successful reductions in cardiovascular risk over 12 months from the following variables: gender, site, age, medical history, smoking, distress items including depression, anger/hostility, anxiety, job strain and change in these distress variables. Successes were defined as: increased fruit/vegetable intake, and decreased intake of high-fat foods. The success rate for fruit/vegetable intake was higher (39% vs. 25%; $\chi^2=6.88$, $p < .01$) for individuals who reported decreased depression, and of those less depressed, success rates were higher (59% vs. 24%; $\chi^2=9.60$, $p < .01$) for individuals who reported no change or an increase in anger/hostility during the study. The success rate of decreasing high-fat food intake was higher (37% vs. 27%; $\chi^2=8.25$, $p < .01$) for individuals who reported a greater decrease in total distress, and of those reporting a decrease in distress, success rates were higher (49% vs. 31%; $\chi^2=8.51$, $p < .01$) for respondents less than 53 years of age. Further, in this younger group reporting decreased distress, there was greater success with lowering high-fat food intake (61% vs. 28%; $\chi^2=9.80$, $p < .01$) by those reporting less worry, and of those less worried, success rates were higher (45% vs. 6%; $\chi^2=6.65$, $p < .01$) for respondents with lower BMI (<29). These findings demonstrated associations between eating behavior and biopsychosocial characteristics (psychosocial distress, age, BMI). Further exploration to investigate potential causal patterns in these relationships is an important future direction.