

Submission Title:

Influence of Color Priming on Comfort with ED Discharge for Low HEART Score Patients

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Abstract

Introduction and purpose

There is a paucity of studies evaluating how changes in presentation of risk may influence patients within the shared decision-making process. We conducted a prospective trial to evaluate the influence of color priming within written descriptions of risk and comfort for discharge reported by low HEART score chest pain patients.

Methods

This was a prospective interventional trial conducted at an urban, academic ED. We enrolled a convenience sample of consenting, adult ED patients who had a chief complaint of chest pain, a HEART score < 3, and normal ECG/Troponin testing. Each enrolled patient was randomized to identical written surveys entirely in red vs. black font/image showing the percentage of MACE occurring in patients with low-risk chest pain over the next 30-days (>98% chance of no major adverse cardiac outcome over that time period). Patients were then asked to report whether or not they felt safe going home (primary outcome). Categorical data were analyzed by chi-square; continuous data analyzed by t-tests. We performed a multivariable logistic regression analysis to control for confounding.

Results

There were 62 patients in the study group; 69% age > 45 years, 55% female, 25% non-Hispanic White, 51% annual income < \$20,000, mean pain score (scale 0-10) 4.2+/3.2, and 35(55%) had a red survey instrument. There were no significant differences between the black and red group patient characteristics. The proportion of patients who felt safe to be discharged home was similar for patients irrespective of gender (p=0.2), age (p=0.2), income (p=0.08), education (p=0.3), insurance type (p=0.45), prior CAD history (p=0.4), family history CAD (p=0.07) and black vs red instrument (62% vs. 70%;

p=0.4). However, patients were less likely to feel safe going home with pain scores > 5 vs. lower scores (83% vs. 34%; $p < 0.001$) and for non-Hispanic White vs other races (60% vs. 26%; $p=0.01$). Within a multivariate logistic regression model, we found that pain score > 5 significantly diminished the probability for patients feeling safe to go home (OR 0.005, 0.0-0.31; $p=0.01$). No other independent variables, including instrument color, were found to have significant association with patient sense of discharge safety.

Conclusion

For ED chest pain patients with low HEART scores, written color priming for description of risk was not associated with patient comfort with discharge home.