



Clinical Digest

ONLINE EDITION

CARDIOVASCULAR DISEASE

More Knowledge, Same Outcomes

Despite the initiation of educational programs intended to increase women's awareness of cardiovascular disease, a significant gender gap remains in the median time from symptom onset to hospital presentation for myocardial infarction (MI), according to a recent study.

Researchers from University of California Davis, Sacramento; Virginia Commonwealth University, Richmond; Duke University, Durham, North Carolina; Wake Forest University, Winston-Salem, North Carolina; and Brigham and Women's Hospital, Boston, Massachusetts, sought to determine if 2 recently launched women's awareness campaigns were associated with a reduction in the time to hospital presentation for MI in women. The American Heart Association (AHA) launched the "Go Red for Women" campaign in 2001, and the National Heart, Lung, and Blood Institute (NHLBI) introduced the "Heart Truth" program in 2002. The aim of both educational programs (primarily targeted at women aged 40 to 60 years) was to increase women's awareness of their risk of heart disease.

For their study, the researchers analyzed data from a cohort of patients who presented with non-ST-segment elevation MI (NSTEMI) in the Can Rapid Risk Stratification of Unstable Angina Patients Suppress Adverse Outcomes with Early Implementation

of the American College of Cardiology/AHA Guidelines Registry (CRUSADE) and the National Cardiovascular Data Registry Acute Coronary Treatment and Intervention Outcomes Network-Get with the Guidelines registry. They calculated delay from symptom onset to hospital presentation from the documented date and time of symptom onset to hospital arrival. The analysis was done based on the introduction of the educational intervention (pre-educational intervention, 2002–2003; intermediate educational intervention, 2004–2005; and post-educational intervention 2006–2007).

Of the 125,161 participants included in their analysis, 50,162 (40.1%) were women. The median time from symptom onset to presentation was significantly longer among women than among men (3 hours vs 2.8 hours, respectively, $P < .0001$). Over the 6-year period that was studied, they noted no measurable reduction in the time from symptom onset to presentation. Women aged 40 to 60 years had a 3.46% longer time to presentation than men after adjustment for covariates.

Given the significant resources expended on patient education, the researchers say the lack of change in time to presentation is disappointing, although not entirely unexpected. They note that prior studies, such as the NHLBI Rapid Early Action for Coronary Treatment Study, have had mixed results. Other studies that have evaluated the processes involved in seeking care for heart attack symptoms have shown that sex, age, and socioeconomic status are factors asso-

ciated with delay. This study found other variables to be associated with delays in presentation, including age over 60 years, race, diabetes, and hypertension.

The researchers also note that temporal findings in terms of patient characteristics were identified in their study. Over the study period, they found significant differences in the demographics of patients with NSTEMI—particularly a higher percentage of patients with hypertension, diabetes, renal insufficiency, and prior percutaneous coronary intervention. This change in risk factor characteristics could be useful in that it may help identify target groups for educational interventions in the future.

Although these most recent awareness programs were successful in educating women of the risk factors and symptoms of coronary disease, they failed to reduce the time from symptom onset to hospital presentation for MI in women. The researchers say "the lack of relationship between the gain in knowledge and change in action has been a persistent challenge for educational programs." One possible limitation of educational programs is that they focus on the identification of symptoms rather than the importance of action once the symptoms are identified. They say that further studies should focus on identifying the best mechanism of emphasizing the need for early action once cardiac event symptoms are recognized. ●

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