

Family History of Premature Heart Attack or Stroke, Michigan WISEWOMAN Program, 2001-2004

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Background and objectives: Heart disease is the number one cause of death for women in Michigan, and stroke is the third most frequent cause of death. Family history of cardiovascular disease, such as heart attack and stroke, is a recognized risk factor for cardiovascular disease. Family history of chronic disease represents the combination of shared environmental and behavioral factors as well as inherited genetic susceptibilities. Therefore, family history can be a valuable tool in cardiovascular disease risk assessment efforts.

The Well-Integrated Screening and Evaluation for Women Across the Nation (WISEWOMAN) program, addresses the cardiovascular health needs of financially disadvantaged and under insured or uninsured women aged 40 to 64 years. In Michigan, the WISEWOMAN program is implemented by 9 local health departments serving 27 counties. Participants receive cardiovascular risk factor screening, lifestyle intervention, and referral services. Michigan's WISEWOMAN program aims to reduce cardiovascular disease and associated risk factors by helping women increase awareness of their risk factors, and increase healthy behaviors related to diet, physical activity and smoking. Since 2001, Michigan's program has collected information in a medical history questionnaire about participants' family history of premature heart attack and stroke. This information, along with other subjective and clinical criteria, is used to determine physician referral needs of participants.

The objective of this project was to describe the associations between family history of premature heart attack or stroke and demographic and risk factors among Michigan WISEWOMAN participants, 2001-2004.

Methods: Data from 4255 Michigan WISEWOMAN participants during 2001-2004 were analyzed. Standardized data components, such as demographic information, health history, and physiologic measurements, are routinely collected from each WISEWOMAN participant. In addition, Michigan obtains information regarding both personal medical history of cardiovascular disease and family history of premature heart attack or stroke (defined as having a father or brother who had a heart attack or stroke prior to the age of 55, or a mother or sister who had a heart attack or stroke prior to the age of 65). The prevalence of family history was estimated, by demographic and other factors, and the characteristics of those with a family history were compared to the characteristics of the participants without a family history.

Results: Approximately one-third (33.5%) of the Michigan WISEWOMAN participants reported a family history of premature heart attack or stroke. Family history was associated with several self-reported and clinical factors. Among participants who reported having a personal history of heart disease, 48.7% had a family history of premature heart attack or stroke. And among those who reported having had a previous heart attack, stroke, or mini-stroke, 54.5% had a positive family history. Furthermore, when compared to those without a family history, WISEWOMAN participants who had a family history of premature heart attack or stroke had a higher prevalence of several health indicators (including having a previous diagnosis of high blood pressure, high cholesterol, diabetes, and heart disease; being a smoker; and clinical findings of obesity, hypertension, and high cholesterol).

Discussion/Conclusion: This examination of WISEWOMAN data suggests that a family history of cardiovascular disease (specifically premature heart attack or stroke) is associated with several other cardiovascular risk factors among participants, and may be useful in identifying those at increased risk of future negative cardiovascular events. Family history is easily and inexpensively obtained from a questionnaire, and should be incorporated into chronic disease risk assessment and screening efforts. The recognition of family history as an important chronic disease risk factor also represents a unique opportunity to provide health promotion and disease prevention messages to individuals whose family history may be a motivating factor in their health behaviors.