

Recognition of Symptoms of Heart Attack and Stroke among Oregonians

Introduction:

In the United States, every minute someone will die of a coronary event and every 3-4 minutes someone will die of a stroke.¹ In Oregon in 2005, 47% of myocardial infarction (heart attack) deaths occurred before the patients were transported to the hospital, and 65% of stroke deaths happened outside of hospitals. Early recognition of signs and symptoms can play an important role in reducing heart attack and stroke deaths and improving outcome. Family members, coworkers and friends can help heart attack victims or stroke victims get timely care by calling 9-1-1 immediately.

Results:

In all, about one-tenth of adult Oregonians correctly identified all heart attack symptoms, gave a correct response to the decoy question, and identified calling 9-1-1 as the appropriate intervention in 2007. About a quarter of Oregonians correctly identified all stroke symptoms, gave a correct response to the decoy question and identified calling 9-1-1 as the appropriate response to stroke symptoms. Among heart attack symptoms, the most widely recognized in both years was

chest pain or discomfort (93% and 98%). In regard to the least recognized symptom (pain or discomfort in the jaw, neck or back), there was a significant increase in recognition from 2005 to 2007 (46% vs. 66%, $p < 0.05$). However, compared with 2005, fewer people in 2007 correctly responded that the decoy symptom was not suggestive of heart attack (38% vs. 27%, $p < 0.05$).

Among stroke symptoms, all but one (severe headache with no known cause) were recognized by more than 80% of respondents. Correct responses to the decoy question were again lower in 2007 than in 2005 (40% vs. 36%).

In both 2005 and 2007, the percentage of Oregonians who knew that calling 9-1-1 was the most appropriate action when someone is having a heart attack or a stroke was almost 90%.

Demographically, men appeared to be more likely than women to recognize heart attack symptoms, although the difference was not significant. Retired people are less likely to correctly recognize all heart attack symptoms than employed-for-wages workers. There were no significant differences demographically in awareness of stroke symptoms except again the retired group is less likely to correctly recognize the symptoms than employed groups.

Heart Attack Signs and Symptoms:

- Pain or discomfort in the jaw, neck or back
- Feeling weak, lightheaded, or faint
- Chest pain or discomfort
- Pain or discomfort in the arms or shoulder
- Shortness of breath

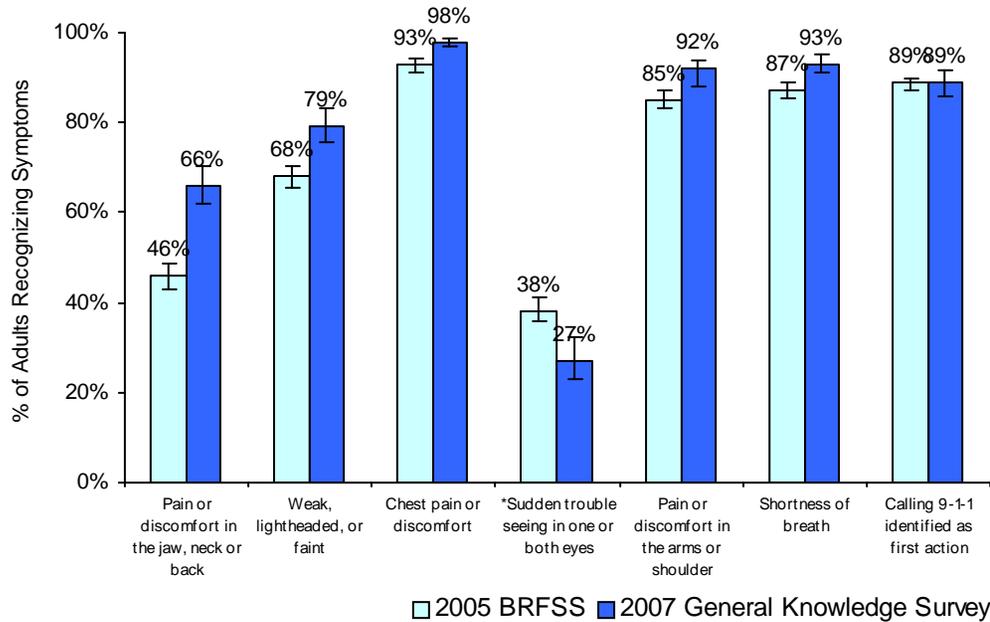
Stroke Signs and Symptoms:

- Sudden confusion or trouble speaking
- Sudden numbness or weakness of face, arm, or leg, especially on one side
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, or loss of balance
- Severe headache with no known cause

Emergency Action:

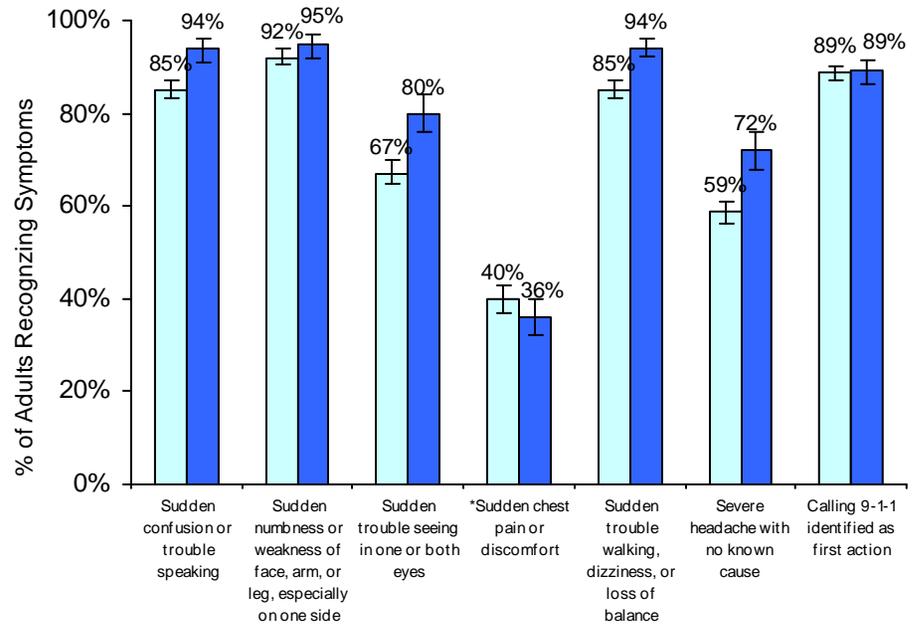
- Call 9-1-1

Knowledge of the Signs and Symptoms of a Heart Attack, Oregon

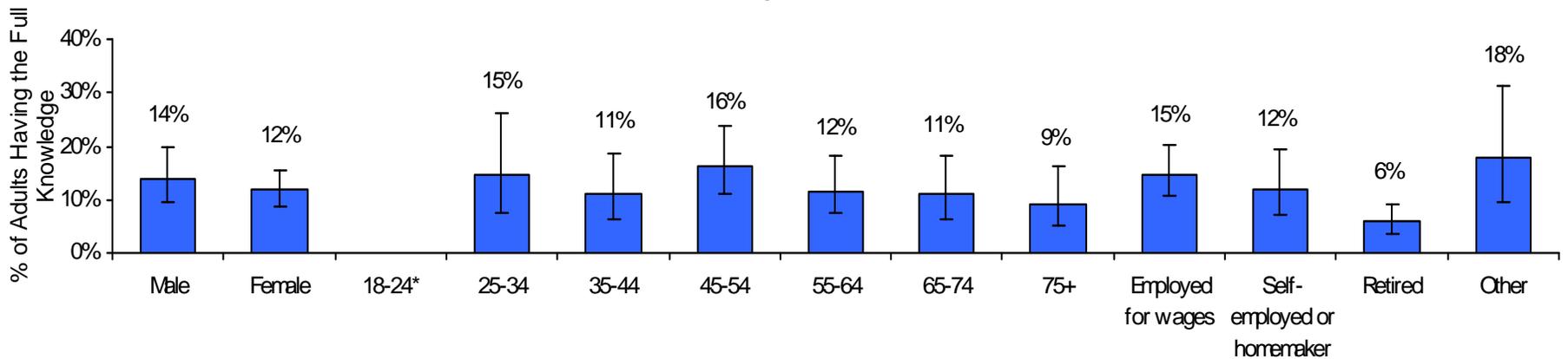


*Decoy question. Correct answer was "No".

Knowledge of the Signs and Symptoms of a Stroke, Oregon



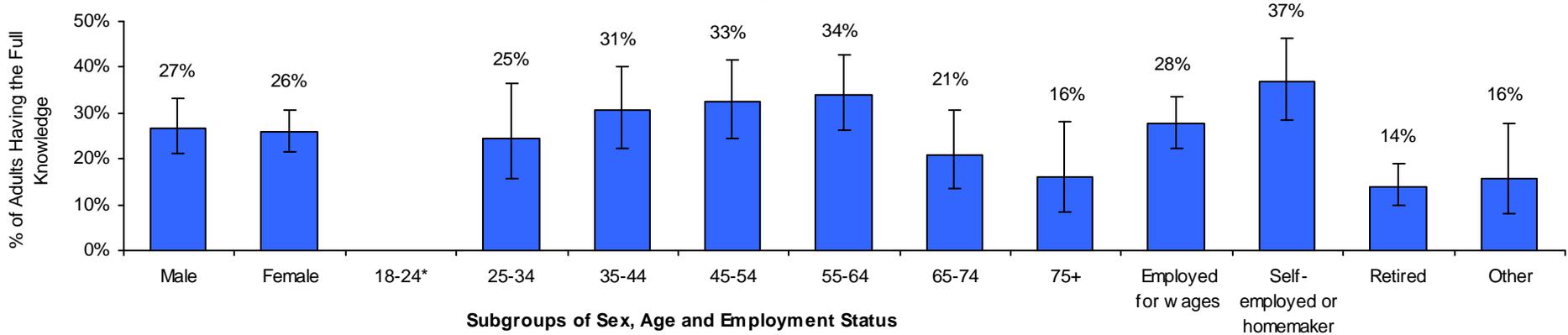
Percentage Responding Correctly to All Five Heart Attack Symptoms and One Incorrect Symptom, Oregon, 2007



Subgroups by Sex, Age and Employment Status

*There were not enough respondents, data are suppressed.

Percentage Responding Correctly to All Five Stroke Symptoms and One Incorrect Symptom, Oregon, 2007



Conclusion:

The majority of Oregonians recognize major heart attack symptoms and indicate that they would call 9-1-1 if they think someone is having a heart attack. Awareness of even lesser known heart attack symptoms is increasing. However, a considerable proportion of Oregonians also thought that an unrelated “decoy” symptom was suggestive of heart attack, and only 11% Oregonians responded correctly to all the heart attack symptom awareness questions and identified calling 9-1-1 as the appropriate intervention. Among heart attack symptoms, pain in the jaw, neck or back remained the least commonly recognized, and public awareness education in this area is needed.

Women seem to be less aware of heart attack symptoms than men in Oregon. In addition, women tend to be more likely than men to present with upper abdominal pain, dyspnea, nausea, and fatigue as heart attack symptoms.² This difference in symptom profile could be addressed in symptom awareness education campaigns.

Levels of awareness of individual stroke symptoms remain high among adult Oregonians. Though again, many incorrectly thought a “decoy” symptom was suggestive of stroke, more than 25% of respondents answered all stroke symptom awareness questions correctly and identified calling 9-1-1 as the appropriate intervention.

Methods:

Surveys were conducted in 2005 and in 2007 to assess Oregonians' knowledge of the signs and symptoms of heart attack and stroke, and to assess how they would respond if they thought someone was having a heart attack or a stroke.

The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based telephone survey of adults' health behaviors. In 2005, 2,000 Oregonians age 18 years and older were asked about heart attack and stroke symptom awareness. For each of the symptoms, participants answered "Yes", "No" or "Don't know/ not sure" as to whether they believed the symptom was to be suggestive of a heart attack or a stroke. The survey also included "decoy" symptoms (see above) to assess whether respondents could distinguish these from the actual ones. The decoy symptom for heart attack was sudden trouble seeing in one or both eyes. The decoy symptom for stroke was sudden chest pain or discomfort.

The General Knowledge Survey was conducted in 2007 among 2,000 adult Oregonians who were selected using BRFSS sampling methods. Questions identical to the heart attack and stroke symptom awareness questions from the 2005 BRFSS survey were included.

A composite variable was created to determine what percentage of respondents correctly answered all the heart attack symptoms questions including the decoy question. Another composite variable was created for stroke in the same fashion.

All the rates were age-adjusted to the 2000 U.S. standard population, except the proportions in the age groups. 95% confidence intervals are represented as error bars in the graphs.

References

1. American Heart Association. *Heart Disease and Stroke Statistics – 2008 Update*. Dallas, TX: AHA; 2008
2. Mosca L, Manson JE, Sutherland SE, et al. Cardiovascular disease in women: a statement for healthcare professionals from the American Heart Association. *Circulation*. 1997; 96:2468–2482.