Healthy Lifestyle Cuts Women's Stroke Risk in Half

Sue Hughes | |October 10, 2014

A combination of low-risk lifestyle factors substantially reduces the risk for stroke, particularly cerebral infarction, in women. In addition, there appears to be a progressive reduction in risk with more low-risk lifestyle factors adopted, new research suggests.

The authors, led by Susanna C. Larsson, PhD, Karolinska Institutet, Stockholm, Sweden, explain that while previous studies have suggested diet, alcohol consumption, smoking, physical activity, and adiposity can affect the risk for stroke, little research has addressed the effect of combinations of these low-risk lifestyles.

"To our knowledge, this is the first study to report results on different combinations of low-risk lifestyle factors," the authors write.

"In our study each of the healthy lifestyle habits reduced the risk of stroke by 9% (physical activity) to 17% (never smoking). Women who achieved all lifestyle habits had a halving in risk of stroke," Dr Larson told *Medscape Medical News.*

"The take-home message from this study is that women can substantially reduce their risk of developing stroke by following a healthy lifestyle," she added.

The study was published study, published online October 8 in *Neurology.*

Steady Decrease in Risk

For the study, investigators analyzed data from 31,696 women from the population-based Swedish Mammography Cohort. These women had completed a questionnaire at baseline about diet and lifestyle and were free from cardiovascular disease and cancer. Stroke cases were identified from the Swedish National Patient Register and the Swedish Cause of Death Register.

Low-risk lifestyles were defined as a healthy diet (top 50% of a Recommended Food Score), moderate alcohol consumption (5 to 15 g/day), never smoking, physically active (walking/bicycling 40 min/day and exercising 1 hr/week), and body mass index (BMI) below 25 kg/m^2.

During the 10.4-year follow-up, there were 1554 incident stroke cases, including 1155 cerebral infarctions, 246 hemorrhagic strokes, and 153 unspecified strokes.

The risk for stroke, in particular cerebral infarction, decreased steadily with increasing number of low-risk lifestyle factors, and there was little diversity in the strengths of the associations for different combinations.

Table. Relative Risk for Cerebral Infarction in Relation to Number of Low-Risk Factors

Number of Low-Risk Lifestyle Factors	Relative Risk for Ischemic Stroke (95% Confidence Interval)
0	1
1	0.72 (0.56 - 0.93)
2	0.67 (0.52 - 0.85)

3	0.57 (0.44 - 0.74)
4	0.54 (0.40 - 0.73)
5	0.38 (0.20 - 0.73)

These findings did not change appreciably when women with diabetes or atrial fibrillation were excluded, and the association was not affected by age or a history of hypertension.

No association was seen between number of low-risk lifestyle factors and hemorrhagic stroke. But because of the relatively small number of hemorrhagic stroke cases, the authors note they cannot exclude a potential association. In addition, when they removed BMI, which was positively associated with risk for hemorrhagic stroke, an inverse association with a low-risk lifestyle was seen.

Findings Generalizable

Regarding specific lifestyle factors, cigarette smoking — a well-established risk factor for stroke — was the lifestyle factor most strongly associated with total stroke and cerebral infarction.

For alcohol, the researchers note that there appears to be a J-shaped relationship with stroke. In the current cohort alcohol consumption was low and there was trend toward a reduction in stroke risk in women who consumed 5 to 15 g of alcohol per day (approximately one alcoholic drink per day).

As has been shown previously, having a healthy body weight (compared with overweight/obesity) was inversely associated with risk for cerebral infarction, and there was also a nonsignificant inverse association between physical activity and cerebral infarction.

Dr Larsson said the mechanism behind the association of these lifestyle factors and a reduced risk for stroke was probably a reduction in blood pressure; in addition, moderate alcohol consumption may increase high-density lipoprotein cholesterol levels.

The authors point out that this study has several strengths, including a prospective and population-based design, large number of cases of cerebral infarction and total stroke, information on potential confounders, and the almost complete follow-up of participants. They note the results should be generalizable to all women.

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