WOMEN AND STROKE: GUIDELINES FOR PREVENTION

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Objectives

1. Identify sex-specific factors for stroke in women.
   - Summarize the role of antiplatelet therapy and anticoagulation in the prevention of stroke in high risk women.
3. Summarize best evidence for nursing activities targeting stroke prevention in women
4. Discuss nursing implications to reduce risk factors for stroke in women
Background

- Stroke remains the third leading cause of death in women affecting 3.8 million women compared with 3 million men.
- Almost half of the women surviving stroke are anticipated to have residual deficits.
- With the aging population and increased longevity of women in our society, there is an urgent need to concentrate on stroke prevention for women, identify those most at risk, and then take immediate action.
Identification of Key Stroke Risk Factors for Women
High Blood Pressure Definitions

- Hypertension

- Pre-eclampsia and Eclampsia:
  - Preeclampsia is characterized by high blood pressure and high protein levels in the urine, and when seizure also occurs, this is called eclampsia.
  - Preeclampsia and eclampsia are blood pressure disorders during pregnancy that cause major complications, including stroke during or after delivery, premature birth, and risk for stroke well after child-bearing.
Hypertension and Preeclampsia

• Hypertension: Stage I hypertension with systolic blood pressure (SBP) 140 to 159 or diastolic blood pressure (DBP) of 80 to 90; stage 2 SBP ≥160 or DBP ≥100.4

• Preeclampsia and eclampsia and pregnancy-induced hypertension:
  • High blood pressure during pregnancy is defined as mild (SBP 140–149 mm Hg or DBP 90-99) and moderate (SBP 150–159 mm Hg or DBP 100–109 mm Hg) or severe SBP ≥160 mm Hg or DBP ≥110 mm Hg).5
Obesity

- Defined as a body mass index of $\geq 30$ kg/m$^2$ is associated with increased risk of stroke even after adjustment for other factors, such as age, physical activity, smoking, alcohol consumption, and conditions, such as hypertension and diabetes mellitus.1,5
Atrial Fibrillation

• AF note if present recognizing that elderly women (ie, ≥75 years) are at higher risk for stroke if AF is present.
Oral Contraception

• Oral contraception: may be harmful to women with additional stroke risk factors, such as cigarette smoking, prior thromboembolic events.5
Hormone Replacement Therapy

- Hormone replacement therapy: concerns seem similar to cardiovascular disease and should not be used as primary or secondary prevention of stroke in postmenopausal women.5
Migraine

- Migraine with aura: increased stroke risk occurs in women who also smoke and have the aura.5
Nursing Implications
Gender Differences

- Most research studies indicate no sex differences in treatment seeking time when a stroke is suspected, a few others suggest some women, especially from minority groups, tend to wait longer than men.
- Emphasize the importance of seeking immediate treatment (<3 hours) when a stroke or transient ischemic attack is suspected and to review signs and symptoms of stroke or transient ischemic attack during every teachable moment.
- Ongoing monitoring of these risk factors must occur and women need to understand the significance of assuming responsibility for their own self-care management and adherence to the prescribed evidence-based treatment regimen.
JNC8 Guidelines

• Nurses should refer to the 2014 eighth Joint National Committee (JNC8) evidence-based hypertension management algorithm

• Recognize that the current recommendations for women are the same as for men.

• ** 2014 JNC8 further emphasizes these recommendations apply to most patients, but individual management should incorporate clinical judgment, provider capabilities, and individual patient characteristics in all decision-making.
Hypertension Management

- Further recognize that even though a-Blockers, B Blockers, calcium channel blockers, hydralazine, and thiazide can be used during pregnancy, they do transfer across the placenta and side effects of the mother and fetus must be monitored.
- Women with chronic primary or secondary hypertension or previous pregnancy-related hypertension should be prescribed low-dose aspirin from the 12th week of gestation until delivery and calcium supplementation considered for women with low dietary intake of calcium (<600 mg/d) to prevent preeclampsia.
- For women who have a history of preeclampsia, it is reasonable to consider evaluating them 6 months to 1 year postpartum, as well as past childbearing age.
Oral anti-coagulation/CHA2DS2-VAS

- For those women with AF, the CHA2DS2-VASc Calculator (see Table) that determines the ischemic stroke risk in patients with AF should be performed.
- A score of 0 is low risk for stroke, whereas a score of 1 is moderate, and any patient score >1 is considered at high risk.
- Oral anticoagulation in women <65 years with AF alone is not recommended. Advance practice nurses and other HCPs should follow the 2014 new guidelines for management of AF patients supporting oral anticoagulation in patients with a CHA2DS2-VASc ≥2, no treatment (not even aspirin) with a score of 0, and optional aspirin with a score of 1.
CHA2DS2-VAS (con’d)

- For patients with a prior stroke, transient ischemic attack, or CHA2DS2-VASc score of ≥2, oral anticoagulants are recommended with options being warfarin, diabigatran, rivaroxaban, or apixaban.11 “In patients with AF, antithrombotic therapy should be individualized based on shared decision-making after discussion of the absolute and relative risks of stroke and bleeding, and the patient’s values and preferences” (January 24).
Nursing Implications: Education

• Nurses should take advantage of every opportunity to educate and reinforce stroke prevention in women (ie, stroke signs/symptoms, risk factors, strategies to reduce individual risk factors and importance of seeking treatment immediately) when a stroke or transient ischemic attack is suspected.

• Women of all ages should be targeted who are at risk and not just women ≥50 years. Numerous areas of investigation are still needed and should concentrate on the most salient risk factors and aspects affecting outcomes (eg, timing and intensity of nursing efforts, preferred combinations of teaching and care management approaches, cost effectiveness) for different age, race, education, socioeconomic, and cultural groups of women. Great strides have occurred, but more research and its translation into nursing practice must occur.
Nursing Implications: Hypertension

• Women with a history of high blood pressure before pregnancy should be considered for low-dose aspirin and/or calcium supplement therapy to lower preeclampsia risks.
Nursing Implications

- Women who have preeclampsia have twice the risk of stroke and a four-fold risk of high blood pressure later in life. Therefore, preeclampsia should be recognized as a risk factor well after pregnancy, and other risk factors such as smoking, high cholesterol, and obesity in these women should be treated early.
- Pregnant women with moderately high blood pressure (150-159 mmHg/100-109 mmHg) may be considered for blood pressure medication, whereas expectant mothers with severe high blood pressure (160/110 mmHg or above) should be treated.
- Women should be screened for high blood pressure before taking birth control pills because the combination raises stroke risks.
- Women who have migraine headaches with aura should stop smoking to avoid higher stroke risks.
- Women over age 75 should be screened for atrial fibrillation risks due to its link to higher stroke risk.
Nursing Implications

• High blood pressure, migraine with aura, atrial fibrillation, diabetes, depression and emotional stress are stroke risk factors that tend to be stronger or more common in women than in men. More studies need to be done to develop a female-specific score to identify women at risk for stroke.

• C. Bushnell, associate professor of neurology and director of the Stroke Center at Wake Forest Baptist Medical Center in Winston-Salem, N.C
Conclusion

- Interventions to prevent stroke in women should be individualized (patient-centered) with coordinated opportunities that incorporate multiple tailored strategies to achieve targeted outcomes.

- Management of stroke risk factors for women is a life-long process.

- Stroke prevention should focus on women of all ages, with an emphasis on those most at risk.

- To more accurately reflect the risk of stroke in women across the lifespan, as well as the clear gaps in current risk scores, we believe a female-specific stroke risk score is warranted.
Questions

• How many strokes occur per year in women?
• What are the main gender differences in stroke?
• What are 3 key implications for nurses to reduce stroke in women?
References

