

**AFRICAN WOMEN EXPERIENCING PERIMENOPAUSE:
HEART PALPITATION TRIGGERS**

By

Brenda Nelson-Porter, DM

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This paper focuses on women in the poorer nations, such as in Africa, who are experiencing perimenopause and are coping with symptoms associated with perimenopause. Heart palpitations, characterized as the awareness of the fluttering, hard or slow pounding, or skipping of the heart, are associated with the condition, perimenopause (Dengate, 2010; “Perimenopause Symptoms,” n.d.). The triggers of heart palpitations experienced by African middle-aged women and cardiovascular symptoms can be digested from the literature, and natural approaches aimed to help women who experience these symptoms will be presented.

High Iron Intake Associated with Heart Palpitations

Research has shown that heart palpitations, in the chest or neck, occur during the menstrual transition (“34 Menopause Symptoms,” 2014). To understand physiological process, the heart rate variability (HRV) can be used to describe the alterations or variations of both instantaneous heart rate (regular rhythm) and RR intervals (heart rate), which are controlled by the autonomic nervous system (ANS; Chevalier & Sinatra, 2011; Malik, 1996). The carotid arterial pulse, unlike venous pulsations, is palpable and may be evaluated to diagnose the peak of the pulse as well as the heart rate (Crawford & Flinn, 1990). In regards to heart palpitations, which may follow premature ventricular contractions:

Modest heart rate [HR] increases of about 7 to 15 beats per min occur at approximately the same time as the peripheral vasodilation and sweating. Heart rate and skin blood flow usually peak within 3 min of the onset of a hot flash. (North American Menopause Society [NAMS], 2004, p. 15)

Reports indicating that heart palpitations occur during premenopause due to the excess of iron intake may be inconclusive (Al-Hakeim, 2012). For premenopausal women, some reports have suggested, “a multivitamin that includes the RDA for iron is a good idea” (Harvard School

of Public Health, 2014). Iron is reported to elevate in premenopausal women who experience other disorders, such as polycystic ovary syndrome (PCOS). “PCOS is a comprehensive syndrome associated with different metabolic disorders, including obesity, insulin resistance, and dyslipidemia, vascular abnormalities, and carbohydrate metabolism disturbances, including impaired glucose tolerance” (Al-Hakeim, 2012, p. 2).

Individuals with hemochromatosis experience heart palpitation and a number of other medical disorders (Tavill, 2001). Hemochromatosis, which involves the excess iron absorption, however, has been identified as a genetic disorder mostly in the Caucasian population in Northern European and nearly 0% of the populations in African nations (Hansen, Imperatore, & Burke, 2001; Tavill, 2001). African iron overload is an inherited disorder and diet syndrome whereby some iron is lost during the menstrual cycle; thus, categorized as secondary hemochromatosis (Beutler, Hoffbrand, & Cook, 2003). The intake of foods with monosodium glutamate (MSG), a sodium salt additive, has been reported to cause a distribution of the signal around the heart stimulating palpitations (Dengate, 2010).

Irregular heart rhythms and rhythm disorders can be associated with changes in the respiratory and circulatory systems in addition to the endocrine system. Links between heart palpitations and cardiovascular disorders can be identified (Martina Nicholson Associates, 2008). Shortness of breath (*Dyspnea*) that accompanies palpitations and faintness are symptoms of panic as well as atrial fibrillation or cardiovascular diseases (Martina Nicholson Associates, 2008; McNally, Hornin, Donnell, 1995). Spontaneous panic attacks are known as chronic or episodic hyperventilation (Meuret, Wilhelm, Roth, 2001). Hyperventilation, although researchers are unclear if the condition leads to panic attacks or is complimentary to attacks, involves rapid breathing that derives from the rise of partial pressure of arterial blood carbon

dioxide (i.e., PCO_2 ; Meuret et al., 2001). As acute ventilation increases resulting in chronic ventilation, the PCO_2 drops increasing the pH of the blood (alkalosis), which stimulates unpleasant palpitations (Meuret et al., 2001).

“Arterial distensibility is a measure of the arterial ability to expand and contract with cardiac pulsation and relaxation” (Godia et al., 2007). Usually during the heart resting phase, the cardiac pulsation is measured using non-invasive means, such as an electrocardiogram (ECG) or photoplethysmography (PPG; Chevalier & Sinatra, 2011; Poh, McDuff, & Picard, 2010).

Longitudinal research has shown the arterial distensibility (AD) of the carotid artery, however, increases in both the late perimenopausal and the postmenopausal stages (El Khoudary, 2012). The progression rates of the AD of the carotid artery during the late perimenopausal stage result from vascular remodeling whereby the artery become vulnerable indicating a higher risk of developing cardiovascular diseases (El Khoudary, 2012). Research further shows the intima-media thickness (IMT) of the carotid intima-media layer substantially increased during the late perimenopausal phase result from the changes in the estrogen levels further indicating an increased risk of developing cardiovascular diseases (El Khoudary, 2012).

Several studies show that lowering iron does not affect cardiovascular events, total iron binding capacity and iron have no predictive value of coronary heart disease risk, and primary hemochromatosis patients have notably been found to have a decrease in atherosclerosis (Mihai et al., 2011). Research findings, however, seem to be inconclusive or unclear as to whether atherosclerosis that leads to heart diseases or disorders is associated with high or low iron consumption or solely calcium plaque (Mihai et al., 2011; Nishino et al., 2000). Atherosclerosis is the stiffening and hardening of the walls of arteries resulting from the buildup of plaque or calcium and have been reported to lead to vascular changes and a decrease of AD (Godia et al.,

2007; Nishino et al., 2000). Atherosclerosis attributed to high calcium plaque may be identified mostly in postmenopausal women (Nishino et al., 2000). Vascular changes that precede atherosclerosis development, however, may be attributed to some of the iron loss during the menstrual cycle (Mihai et al., 2011).

Alcohol and Street Drugs Contribution to Heart Palpitations

Other possible causes of heart rhythm disorders or cardiovascular diseases or triggers of heart palpitations appear to derive from evident surrounding the intake of heavy smoke, alcohol, or drug rather than from the consumption of excess dietary iron, salts, or calcium (Beutler et al., 2003; Collins et al., 2007; Godia et al., 2007; Heart Rhythm Society, 2014). Although “smoking is not as prevalent among women in Africa,” approximately 10.2% of women in South Africa smoke tobacco products (Global Business Group on Health, 2012; Harmon, 2009). Many natives in Africa and other regions, such as India, chew on tobacco filled pouches that release nicotine; the pouches are self-made using the green leaves from betal plants (Secretariat of the Pacific Community [SPC], 2002).

Tobacco farmers cultivate tobacco throughout Africa and most often export the leaves to trading companies that sell the leaves to manufactures (African Union Commission [AUC], 2013). Multinational British American Tobacco Kenya and Mastermind Tobacco sell most of the cigarette in Kenya, British American Tobacco (Nigeria; BATN) sell most in Nigeria, and Régie Nationale des Tabacs et Allumettes and Manufacture du Tabac de Kairouan sell the most in Tunis (Euromonitor International, 2013). The cigarette, Kretek manufactured in Indonesia using tobacco, cloves and herbs, is one of the most popular tobacco products consumed by native Africans (AUC, 2013; Tobacco Free Center, 2009). The brands, Dunhill Blonde Blend and Dunhill Swiss, are popular in Tunis, and the Dorchester Menthol brand exported from Japan

Tobacco International and Imperial Tobacco Group is most popular in Nigeria (Euromonitor International, 2013).

An abundance of research shows the damaging effect of using tobacco products, alcohol, and drugs. Reports, however, are limited to showing the association of heart palpitations and simultaneously consuming alcohol with tobacco products or depressant and illegal drugs. For example, cocaethylene results from using cocaine and alcohol simultaneously. A small percentage of women (e.g., in the sex trade) in Kenya inject heroin, which can bring about an atypical reaction (e.g., palpitations) or increased risk of HIV infections (CDC, 2005; Jagero & Mbulwa, 2011; U.N., 2004). Usually, prior to sexual engagements, alcoholic drinks are consumed by all parties, which tend to increase sexual attractiveness (Board of Trustees, 2010). Although the heart rate during consensual sexual intercourse is similar to the rate when engaging in normal daily activities, the consumption of alcohol and drugs stimulate irregular heartbeats (e.g., cardiac dysrhythmias; “34 Menopause Symptoms, 2014; Drory, 2002).

Suggestions to Approach Heart Palpitations

The following suggestions aim to help women, to include women in Africa or other nations, who experience heart palpitations associated with perimenopause and are not aimed to diagnose, prescribe, treat, or cure. Because “hormone replacement therapy [such as soy isoflavones] cannot be recommended for the prevention of cardiovascular disease,” which heart palpitations may be an indicator of, natural techniques are presented to enlighten women on healthy lifestyles and living (Collins et al., 2007).

Hereditary hemochromatosis may be detected early using diagnosis treatments, such as phlebotomy or blood testing, to prevent cardiac dysrhythmias (Tavill, 2001). The process of grounding involves becoming in direct contact with the earth to balance electrons, which may

regulate circadian rhythms (Chevalier & Sinatra, 2011). When the measurements of HRV was used to measure the ANS response in grounded and nongrounded participants, individuals who experienced cardiac palpitations improved after 40 minutes of grounding (Chevalier & Sinatra, 2011). The ECG was used to provide data about the ANS (Chevalier & Sinatra, 2011).

Biofeedback therapy is another noninvasive method that may be used to approach palpitations. Respiratory biofeedback therapy aims to reduce respiratory rates and instability through breathing exercises (Meuret et al., 2001). During biofeedback therapy, self-regulation skills are acquired to measure the body's physiological process and symptoms of panic disorders, such as palpitations, by monitoring the instability and timing of breathing (Donaldson, 2011; Meuret et al., 2001). Women who believe their palpitations, however, result from a medical disease are recommended to seek assistance from an MD and naturopathic doctor (ND).

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