



Well Woman



Smoking Is a Women's Health Issue Across the Life Cycle

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Most women know that smoking cigarettes can lead to lung cancer and cardiovascular disease, but they may not be aware of the other preventable health problems associated with the harmful effects of tobacco use. Smoking has the potential to negatively affect many facets of a woman's health at each stage of the lifecycle.

Menstrual Cycle Disorders

The menstrual cycle depends upon proper functioning of the hypothalamic-pituitary-ovarian (HPO) pathway. Numerous influences, including emotional stressors, physical illnesses, medications and substance abuse can affect the HPO pathway, leading to menstrual cycle

dysfunction. Cigarette smoking may contribute to several aspects of menstrual dysfunction, including menstrual irregularity, intermenstrual bleeding, dysmenorrhea and secondary amenorrhea (Grandi et al., 2012; Grossman & Nakajima, 2006; Nohara, Momoeda, Kubota, & Nakabayashi, 2011).

Variable lengths in the menstrual cycle, along with impaired cycle control, have been observed in smokers (Rosenberg, Waugh, & Stevens, 1996). Smoking can lead to shorter menstrual cycles (Hornsby, Wilcox, & Weinberg, 1998). It can also cause increased frequency of intermenstrual spotting and bleeding in female smokers taking combination oral contraceptives

Abstract Many women know about the risks of lung cancer and cardiovascular disease that stem from tobacco use, but many don't realize there are several other potential health consequences of smoking. Nurses should utilize every opportunity to educate women about the various health risks of smoking. Promotion of smoking cessation now may help women prevent numerous health problems later. DOI: 10.1111/1751-486X.12191

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pills (COCs) when compared to nonsmokers taking COCs (Rosenberg et al., 1996). The rationale for these findings is that cigarette smoking has an antiestrogenic effect on the body that affects estrogen metabolism by increasing estrogen catabolism (Baron, La Vecchia, & Levi, 1990).

Some studies support a higher prevalence of dysmenorrhea among current smokers than among previous smokers or nonsmokers (Grandi et al., 2012). No details exist regarding the correlation between number of cigarettes smoked or years smoked and the degree of dysmenorrhea experienced.

Secondary amenorrhea is another menstrual cycle change that may be observed with tobacco

A woman who smokes has almost double the risk of developing cervical cancer and vulvar cancer than a woman who doesn't smoke

use (Johnson & Whitaker, 1992). Some studies suggest cigarette smoking has an antiestrogenic effect on the body (Baron et al., 1990). Estrogen is required for uterine lining proliferation each month in preparation for pregnancy.

Delayed Conception and Infertility

Because smoking can lead to menstrual cycle disorder, a woman's ability to conceive may be impaired. Details about the impact smoking has on fertility is not clearly understood, but it has been associated with a decreased ability to conceive (Dechanet et al., 2011). Cigarette smoking is associated with reproductive impairment, including decreased fecundity rates, increased infertility rates, decreased in vitro fertilization (IVF) success rates and increased rates of miscarriage (American Society of Reproductive Medicine [ASRM], 2012; Dechanet et al., 2011; Rooney & Doman, 2014).

Smoking is the suspected cause of approximately 13 percent of female infertility cases (ASRM, 2014) and is thought to add 10 years to a woman's reproductive age (Rooney & Doman, 2014). Hughes et al. (2000) reported that only 47 percent of women with infertility realized that smoking impaired their ability to conceive,

while 30 percent reported that their physician informed them about the impact of smoking on fertility. This information highlights the importance of educating women about smoking cessation.

As mentioned previously, endocrine dysfunction has been observed in infertile female smokers, which may make conception more challenging. Cigarette smoking may not only impair estrogen synthesis, but it may also cause a progesterone synthesis deficiency (Dechanet et al., 2011). Smoking can have adverse effects on fertility by affecting ovarian follicle maturation, embryo transport, endometrial receptivity and uterine blood circulation (Rooney & Doman, 2014). Dechanet et al. (2011) surprisingly reported that cigarette smoke metabolites have also been identified in embryos retrieved for IVF, suggesting that embryo development took place in a toxic environment. Maternal smoking may also influence and reduce ovarian reserve based on a study by Kilic et al. (2012).

Cervical and Vulvar Cancer

Smoking has been associated with dysplasia of the cervix and vulva (Fonseca-Moutinho, 2011). Dysplasia is a precancerous condition in which abnormal cell formation occurs. A woman who smokes has almost double the risk of developing cervical cancer and vulvar cancer than a woman who doesn't smoke (Beckmann et al., 2014; Dal-ing et al., 1992). Smokers have a more difficult time clearing a human papilloma virus (HPV) infection (Fonseca-Moutinho, 2011). Persistence of an HPV infection is one of the strongest epidemiologic risk factors for cervical and vulvar cancer (Fonseca-Moutinho, 2011). Colposcopy with biopsy and endocervical curettage are diagnostic procedures that are uncomfortable (and often expensive) and if they result in a diagnosis of cancer, more procedures, including major surgery, may be indicated. This is another reason to discourage smoking.

Menopause and Perimenopause

Smoking is associated with early menopause onset and increased risk of vasomotor symptoms (Herber-Gast, Mishra, van der Schouw, Brown, & Dobson, 2013). We know that as ovarian follicle reserve decreases during the perimenopausal period, follicle stimulating hormone

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