

Abstract

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Lifestyle and semen quality: role of modifiable risk factors.

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Abstract

The relationship between exposure to lifestyle factors and adverse effects on human reproductive health is debated in the scientific literature and these controversies have increased public and regulatory attention. The aim of the study was to examine the association between modifiable lifestyle factors and main semen parameters, sperm morphology, and sperm chromatin structure. The study population consisted of 344 men who were attending an infertility clinic for diagnostic purposes with normal semen concentration of 20-300 M/ml or with slight oligozoospermia (semen total concentration of 15-20 M/ml) [WHO 1999]. Participants were interviewed and provided semen samples. The interview included questions about demographics, socio-economic status, medical history, lifestyle factors (consumption of alcohol, tobacco, coffee intake, cell phone and sauna usage), and physical activity. The results of the study suggest that lifestyle factors may affect semen quality. A negative association was found between increased body mass index (BMI) and semen volume ($p = 0.03$). Leisure time activity was positively associated with sperm concentration ($p = 0.04$) and coffee drinking with the percentage of motile sperm cells, and the percentage of sperm head and neck abnormalities ($p = 0.01$, $p = 0.05$, and $p = 0.03$, respectively). Drinking red wine 1-3 times per week was negatively related to sperm neck abnormalities ($p = 0.01$). Additionally, using a cell phone more than 10 years decreased the percentage of motile sperm cells ($p = 0.02$). Men who wore boxer shorts had a lower percentage of sperm neck abnormalities ($p = 0.002$) and percentage of sperm with DNA damage ($p = 0.02$). These findings may have important implications for semen quality and lifestyle.

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