

## **E-Cigarettes—Boon or Ban?**

There is an increasing demand for nicotine replacement therapy (NRT) world over and India is not far behind. It is being heavily marketed by even tobacco industry as a magical remedy for tobacco addiction. Studies have shown that nicotine exposure leads to acute renal injury, gastric reflux, peptic ulcer disease, increases choroidal thickness and decreases ocular blood flow, etc. Many other studies have shown that nicotine possesses carcinogenic property too. Nicotine leads to many cellular events that are associated with carcinogenesis, such as altered gene repair, genotoxicity, oxidative stress, promotion of angiogenesis, altered cellular proliferation, mutation, epigenetic alteration, formation of DNA adducts, etc. Nicotine has been reported to act synergistically with other carcinogens, such as Benzo-a-pyrene, found in the cigarette smoke.

E-cigarettes are battery-operated nicotine delivery devices that closely mimic cigarette smoking. They have become very popular and developed a market worth billions of dollars world over. They are being falsely marketed as being safer alternative to smoking. It is claimed that it helps in cessation by preventing withdrawal symptoms and relapse of tobacco addiction. The increasing use has prompted authorities to call for more research on adverse effects and legislation regarding production and consumption. Most publications, including WHO's advisory, have advised against their use as data on any beneficial effects of E-cigarettes and their long-term safety is lacking. There have been numerous reports on their use leading to chronic dry cough, throat irritation, disorientation, seizures, hypotension, pneumonia and heart failure. Tests have shown that, apart from nicotine, the vapors also contain tobacco-specific nitrosamine, a carcinogen and diethylene glycol, a poison. There is always a danger of nonsmokers and teenagers starting use of E-cigarettes and switching to other nicotine products due to development of addiction. Another significant problem is related to the nicotine refill bottles leading to significant increase in cases of accidental nicotine poisoning among infants. In India, E-cigarettes are widely available from malls to corner pan stores and gaining popularity among youngsters. The sale of E-cigarettes is regulated in USA, Germany, and banned in China and Brazil. The states of Maharashtra and Punjab have already banned E-cigarette. It is time for the Government of India to ban it all over India.

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