# All About e-cigarettes

## Why in news?

- The Union Cabinet approved the promulgation of Prohibition of Electronic Cigarettes (production, manufacture, import, export, transport, sale, distribution, storage and advertisement) Ordinance, 2019.
- It needs to be approved by the Parliament when it meets in November.

## What is the government rationale and its effects?

- The government is concerned that e-cigarettes can seriously undermine and derail the government's efforts to reduce the prevalence of tobacco use.
- It makes production, manufacture, import, export, transport, sale, distribution, storage and advertisement of e-cigarettes and other Electronic Nicotine Delivery Systems (ENDS) a punishable offence.
- ENDS includes vapes, e-hookahs and e-cigars.
- Thus, anyone violating it will be imprisoned for up to 1 year or fined up to Rs.1,00,000 or both for the first offence.
- Storage of e-cigarettes is also punishable.

## How e-cigarettes work?

- ENDS or non-combustible tobacco products are known by many names such as vapes, e-hookahs, electronic cigarettes and e-pipes.
- It may be manufactured to look like traditional cigarettes and are marketed as tobacco-free nicotine delivery devices.
- Unlike in traditional cigarettes, an e-cigarette is a battery-operated device.
- It produces aerosol by heating a solution containing nicotine and different other flavours in the form of liquid primarily composed of solvents such as glycerol/propylene glycol.
- The aerosol containing a suspension of fine particles and gases simulates cigarette smoke.
- Following a puff, ultrafine particles and nicotine is delivered deep into lungs and then absorbed by the blood.

## What are the effects?

- The adverse health effects of e-cigarettes are not yet known.
- A 2018 study found the use of e-cigarette daily was associated with a 79%

increase in heart attack risk.

- A white paper by the ICMR shows that nicotine solvents can be released in varying amounts based on the battery output voltage used.
- Those solvents include potential carcinogens such as acetaldehyde, formaldehyde and acetone.
- The report also says that, at population level, adverse health impact will outweigh any presumed benefit to individual cigarette smokers.
- Flavours such as diacetyl are linked to serious lung disease.
- It also contains volatile organic compounds, heavy metals, such as nickel, tin and lead.
- In 2016, it is concluded that exposure to nicotine during adolescence can cause addiction and can harm the developing adolescent brain.
- It changes the way synapses i.e. connections between brain cells are formed which is of concern as more synapses are formed in younger brains.
- It also harms parts of the brain that control attention, learning, mood, and impulse control.
- In animals, it was found to increase secretion of inflammatory markers, caused lung tissue degradation in chronic exposure.
- But in 2018, England's public health agency, reiterated its claim that vaping is at least 95% safer than smoking.

## Does it help to stop smoking?

- There is a limited evidence to support the claim that e-cigarettes help people to stop smoking.
- The variable delivery of nicotine in each puff and its different sizes makes it difficult to assess its effects.
- Nicotine content mentioned in the label and the actual amount has also been found to differ.
- The U.S. Food and Drug Administration (FDA) has not approved e- cigarettes as an alternative to reduce smoking.
- One study found that though e-cigarettes led to higher percentage of people quitting smoking, nearly 80% of quitters were still vaping.
- A 2015 survey cited by The Truth Initiative (an anti-tobacco organisation) found that almost 60% of those who used e-cigarettes also smoked cigarettes, called as dual users.
- A meta-analysis of 25 studies found that smokers who used e-cigarettes as a cessation aid were 27% less likely to quit smoking.
- WHO has remained more cautious, saying that vaping is probably less toxic than smoking but that there was insufficient information to quantify the risk.
- Given these different analyses, the answer is not clear whether it aid quitting.

## Are e-cigarettes addictive?

- One of the concerns most often raised is that it attracts young people who have never even smoked cigarettes, encouraged by aggressive marketing and the variety of alcopops type flavours available.
- The protection of young people is one of the reasons cited by India for its ban on e-cigarettes.
- Flavours in e-cigarettes have been cited as one of the top three reasons for children to use them.
- The misconception that "e-cigarettes are less harmful than other forms of tobacco such as cigarettes" is another main reason.
- Youth who use e-cigarettes may be more likely to go on to smoke conventional cigarettes.
- According to a National Youth Tobacco Survey, 2018, over 3.6 million kids in the U.S. are using e-cigarettes.
- High school students in the U.S. who used e-cigarettes at least once in 30 days increased from 11.7% in 2017 to 20.8% in 2018; the increase was 48% for middle school children.

## How does other countries react?

- US has the highest population of vape-product users and it plans to ban all e-cigarette flavours, except for tobacco.
- UK introduced regulations for e-cigarette firms in 2016 under which sales of ENDS products like Vapes are legal and use of illicit vaping fluid is contained.
- China planned to regulate to strengthen supervision of vaping products as it houses a third of the world's smokers.
- Japan regulates only nicotine containing e-cigarettes as medicinal products under its pharmaceutical affairs law. Non-nicotine e-cigarettes are not regulated.

**Source: The Hindu**

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