

Oxygen Concentrators

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In News: In the second wave, many patients are suffering from a shortage of oxygen and medical equipment called the oxygen concentrator or an oxygen generator is something that has the potential to help these people.

About Oxygen Concentrators

- An oxygen concentrator is a medical device that concentrates oxygen from ambient air.
- Atmospheric air has about 78 percent nitrogen and 21 percent oxygen, with other gases making up the remaining 1 per cent.
- The oxygen concentrator takes in this air, filters it through a sieve, releases the nitrogen back into the air, and works on the remaining oxygen.
- This oxygen, compressed and dispensed through a cannula, is 90-95 percent pure.
- A pressure valve in concentrators helps regulate supply, ranging from 1-10 litres per minute.
- According to a 2015 report by the WHO, concentrators are designed for continuous operation and can produce oxygen 24 hours a day, 7 days a week, for up to 5 years or more.

Is the oxygen from concentrators clean enough at 90-95 percent purity?

- Experts claim it's good enough for mild and moderate Covid-19 patients with oxygen saturation levels of 85 percent or higher, even though it's not as pure as LMO (99 percent).
- It is not, however, recommended for ICU patients.
- While several tubes may be connected to a concentrator to serve two patients at once, experts do not recommend it due to the risk of cross-infection.

How are concentrators different from oxygen cylinders and LMO?

- Oxygen concentrators are the most convenient alternative to cylinders, but they only provide 5-10 litres of oxygen per minute (critical patients can need 40-50 litres per minute) and are ideally suited to moderately ill patients.
- Concentrators, unlike LMO, which must be stored and shipped in cryogenic tankers, are compact and do not require a specific temperature.
- Concentrators, unlike cylinders that must be refilled, only require a power source to pull in ambient air.