

The Noninvasive Ventilation Helmet: Another Vital Tool for the New Normal

Sir,

The “new normal” in every aspect of life aims at finding ways to decrease the impact of COVID in our day-to-day lives. The aims of treating respiratory failure in these patients not only revolve around patient care and comfort but also revolve very importantly on protecting the medical staff and other patients from nosocomial infections.

Noninvasive ventilation (NIV) is very often used in managing these patients. An inherent problem of the commonly used NIV interfaces is the aerosol generation in the intensive care units (ICUs), an important source of infection transmission.^[1] Large leaks, claustrophobia, nasal bridge ulceration, etc., also add to the NIV woes. It is not uncommon to see both the patient and the nursing staff, struggling with these masks, with the patients often requesting the staff to take off the mask for drinking water, or due to claustrophobia. In a patient with COVID-19 infection, frequent mask removal and strapping are not desirable. Over the past few weeks, as our unit started admitting these patients, the NIV “woes” started increasing. As we looked for methods to decrease the NIV-related issues, we relooked at the use of NIV helmets. NIV helmets have been available globally for long, and their use is backed by sound evidence. Somehow, helmets have not been very popular in Indian ICUs due to poor availability and cost issues.

The helmet is a single patient NIV interface, made of a clear plastic hood on a hard-plastic ring with a multi-size silicon-polyvinyl chloride soft collar, to fit a wide range of neck dimensions. Before opening the helmet packet, the optimum size of the helmet to be used should be gauged with a tape measure which comes with the packet. A helmet “CPAP Bundle” has been described recently which describes ways to make the helmet more user-friendly for the patient. The described modifications include avoiding armpit straps and using them as counterweights, on either side of the patient bed and addition of heated wire humidification systems to prevent dryness.^[2] A common problem with conventional NIV interfaces is that patients often ask for the mask to be removed for drinking water. In the helmets, there is a convenient port which can be opened for drinking purposes, without having to remove the whole helmet. The addition of a high efficiency particulate filter at the helmet outlet can significantly decrease the aerosol-related COVID spread in the ICU.^[3]

The cost of a helmet device is considerably higher than conventional NIV masks, and these are only meant to be used for one patient, unlike other NIV masks, which can be sterilized and reused. We have recently started using the helmet interface in our ICU, and our experience is yet too limited, to distill and present systematically. The purpose of this letter is to remind

our colleagues that this interface is available and may decrease infection amongst the hospital staff. Our initial experience with the helmets is very encouraging. Our staff feel less intimidated when the patient is on the helmet interface as the risk of aerosol spread is lesser, and most of our patients also found it to be comfortable. We are adapting ourselves to the new normal, and routine use of the NIV helmet has become a part of it, at least in our ICU.

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Conflicts of interest

There are no conflicts of interest.

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