Dear Editor,

In this era of COVID-19 pandemic, healthcare professionals are at greater risk of infection, despite the use of personal protective equipment. Patients visiting hospitals could be asymptomatic carriers[1] and thus easily missed during screening. Surgical masks or respirators are mandatory since aerosols[2] are the most important route for viral transmission. Although there are many articles on the safety and efficacy of masks, none has addressed issues such as poor-fitting of masks and the resultant fogging over the glasses. Herein, we have designed a Do it yourself (DIY)-antifogging noseband to overcome these problems.

Materials required for making noseband are sponge (15 cm long and 2 cm wide), 1 mm diameter stainless steel wire (19 cm long), thin elastic band, cling film wrap, and super glue. [Fig. 1a] First, the metal wire is inserted from one end of the sponge, and taken out from the opposite end. The excess metal wire is turned into a U-shaped loop [Fig. 1b] on either side and the free edges are inserted back into the sponge. An elastic band is passed through the U-shaped loops on either side and adhered with super glue. [Fig. 1c] Cling film is wrapped around the sponge. The band is flexed in the center (for a snug fit over the nose). [Fig. 1d]

Respirators and N95 masks are effective due to the better sealing effect[3] and filtration. However, high cost and limited availability have prompted the usage of other alternatives. Due to the gap between the masks and nose, warm breath condenses over the glasses causing fogging. This results in poor visibility and hence, noncompliance.[4] Other measures have been tried including the use of cellophane tape which leaves residual glue over the skin, while the use of soap solutions[5] can damage coating over glasses.

Uses of noseband include prevention of fogging of glasses [Fig. 1e and f], slit-lamp and microscope eye-piece, lenses during fundus evaluation, and retinal lasers. It also reduces aerosol contamination of trial frames, lenses, and instruments like optical coherence tomography, non-contact tomography, Humphrey field analyzer, topography, etc. Noseband can be disinfected by placing it overnight in a UV sterilizer. Furthermore, changing the cling wrap around the noseband makes it suitable for multiple uses.

To conclude, a noseband is a simple, reusable, DIY device which reduces aerosol dispersion, and overcomes the issue of fogging.

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Conflicts of interest
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References

1. Gandhi M, Yokoe DS, Havlir DV. Asymptomatic transmission, the Achilles’ heel of current strategies to control Covid-19. N Engl J Med 2020;382:2158-60.

2. Nardell EA, Nathavitharana RR. Airborne spread of SARS-CoV-2 and a potential role for air disinfection. JAMA 2020;324:141-2.

3. Konda A, Prakash A, Moss GA, Schmoldt M, Grant GD, Guha S. Aerosol filtration efficiency of common fabrics used in respiratory cloth masks. ACS Nano 2020;14:6339-47.

4. Crebolder JM, Sloan RB. Determining the effects of eyewear fogging on visual task performance. Appl Ergon 2004;35:371-81.

5. Malik SS, Malik SS. A simple method to prevent spectacle lenses misting up on wearing a face mask. Ann R Coll Surg Engl 2011;93:168.