General

UMP lecturers produce reusable DIY face shields

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The spirit of assisting the frontliners and the scarce of personal protective equipment (PPE) have inspired three lecturers from Universiti Malaysia Pahang (UMP) to produce face shields to help the frontliners battling the Covid-19 outbreak.

They are Dr. Zamzuri Hamedon, Dr. Ismayuzri Ishak, and Khairul Fikri Muhammad from the Faculty of Manufacturing and Mechatronics Engineering (FTKPM) shared the idea of producing the face shields in two days.

With support from the Dean of FTKPM, they managed to produce simple and cost-effective face shields.

Formed since 24 March, the trio contributed various ideas and prototypes for the design of face shields before the final printing process.

When contacted, Dr. Zamzuri said that the initial stage was executed with the consultation from the Director of Hospital Tengku Ampuan Afzan (HTAA), Dr. Norazmi Abdullah and the Head of Emergency Department, Dr. Badli Sham Baharun.

“Taking into account the suitability and comfort of the users, we managed to complete 30 sets in two days and distributed to the frontliners at HTAA.

“We have received more orders from friends and health personnel.

“The face shields undergo a three-dimensional printing technology (3D) known as Reusable DIY Face Shield (RDF), which are made from readily available headbands, rubber bands, and A4 transparent plastic,” he said.

Complying with the MCO directive, the delivery is only done through post.

In the early stage, they managed to complete between 50 and 60 sets daily and now have increased production to between 150 and 200 sets.

Each packet contains five RDF sets along with a user manual. Users can reuse the RDF set for at least three or four times, depending on the usage, and they are advised to sanitise the RDF set before and after each use.

The deliveries were also made to UMP medical and security staff, health clinics, and hospitals throughout the country, including Hospital Sultan Haji Ahmad Shah Hospital (HOSHAS) in Temerloh, Hospital Jengka, Peramu Jaya Community College in Pekan and Pekan District Health Centre.

He added that his team also prepared 150 sets for the non-governmental organisations (NGO),

Malaysian Relief Agency (MRA), with the collaboration with the Alumni Association of the Mara Junior Science College (ANSARA) for distribution.

“Currently, 1,000 sets of face shields are produced and distributed for free in stages to the frontliners at the government and private hospitals in the state.

“Starting with orders from friends, the face shields are currently being distributed across Malaysia.

“This includes Hospital Pekan, Hospital Kuala Kubu Bharu, Hospital Tuanku Fauziah, Hospital Seri Manjung, Shah Alam KPJ Specialist Hospital, Nilai Health Clinic, Mentakab Health Clinic, Kuantan District Police Headquarters (IPD),” he said.

According to Dr. Zamzuri, the RDF face shields are much lighter, smaller in size, and comfortably worn because of the open-top face-shield design.

“The more essential features are they are easily worn and cost-effective as they can be reused.

“The plastic used to cover the face can be easily be replaced with the ones sold in shops,” he said,

He appreciates the support of UMP management, especially the UMP Vice-Chancellor, Professor Ir. Dr. Wan Azhar Wan Yusoff and the Dean of FTKPM, Associate Professor Ir. Dr. Faiz Mohd. Turan.

Besides, his team has been in contact with the coordinator of Malaysia 3D Printing Community for Covid-19 in working together to produce face shields via 3D printing technology.

Despite the constraints during the MCO period, his team hopes that the efforts help the frontliners, especially the medical personnel, in handling the Covid-19 cases.

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