

ABSTRACT

Background- Face mask wearing is one of the most successful strategies to curtail SARS-COV-2 providing a protective barrier for droplet transmission when correctly worn. However, clinical waste generation and environment pollution has augmented with the excessive face mask usage and incorrect disposal practices. This study demonstrates the face mask usage and disposal practices at selected market places in Sri Lanka.

Objectives- To assess face masks usage and disposal practices among adults at selected market places in Gampaha district during COVID-19 pandemic.

Methods- A descriptive cross-sectional study was carried out in three selected market places in Gampaha district. A convenient sample of 200 was selected using non-probability sampling technique. Both vendors and consumers more than 18 years were included. A pre-tested interviewer administered questioner (IAQ) and an observational checklist were used to obtain data.

Results- Majority of adults at market places in Gampaha district were females (N=96, 52.5%), Sinhalese (N=197, 92.9%), educated up to passing O/L or below (N=129, 70.5%), had a monthly income of less than LKR 70,000/= (N=138, 75.4%). Mean age of the sample was 49.53 (SD 13.55). Majority were consumers (N=97, 53%) approximately similar number being employed (N=48, 49.5%) and unemployed (N=49, 50.5%). Commonly used face masks types were fabric masks (N=86, 47%, 95%CI 39.3-54.1%) and surgical masks (N=78, 42.6%, 95%CI 35.5-50.3). Four types of masks were worn as observed using the check list; fabric masks (N=86, 47%, 95%CI 39.3-54.1%), surgical (N=74, 40.4%, 95%CI 33.9-47.5), N95/KN95 (N=22, 12%, 95%CI 7.1-16.9) and FFP (N=1, 0.6%, 95%CI 0-1.6). Collectively,

disposable mask usage was higher (N=97, 53%, 95%CI 45.9-60.1) compared to reusable masks. Among disposable masks users, 39.2% re-used N95/KN95 masks (N=38, 95%CI 29.1-49.5), 1% re-used FFP masks (N=1, 95%CI 0-3.5) and 21.6% re-used surgical masks (N=21, 95%CI 14-30.1).

Based on observation during encounter followings were noted; wore wet masks (N=11, 6%, 95%CI 2.7-9.8), masks were dirty (N=24, 13.1%, 95%CI 8.7-18), masks were torn (N=14, 7.7%, 95% CI 4.4-11.5), did not completely cover nose, mouth and chin with the mask (N=43, 23.5%, 95%CI 17.5-29.5), participants pulled down masks to talk (N=18, 9.8%, 95%CI 6-14.7), touched masks during encounter (N=66, 36.1%, 95%CI 29-43.2). Among surgical mask wearing participants, similar number wore white side out (N=1, 1.4%) and metal piece on chin (N=1, 1.4%). Total usage practice was analyzed based on the observational check list and majority were adherent to wrong usage practices (N=106, 57.9%, 95% CI 50.3-65.6). Based on the IAQ, following practices were revealed; never performed hand hygiene before wearing (N=19, 10.3%, 95%CI 6-14.8) and never performed hand hygiene after removing (N=25, 13.7%, 95%CI 9.3-18.6).

Majority of disposable face mask users did not dispose used face masks to a bin with a lid while away from residence (N=61, 62.9%, 95%CI 52.8-72.8). Common disposal methods simultaneously practiced in households were handing over to a garbage collecting vehicle (N=97, 100%) and burning (N=63, 65%). Among the participants who handed over to garbage collecting vehicle at household, majority did not collect used masks in separate bags (N=72, 74.2%, 95%CI 65.9-82.8).

There was a statistically significant association (P=0.023) of gender with face mask usage practices with higher percentage of males having wrong usage practices (N=58, 66.7%). Higher percentage of wrong usage practices (N=86, 62.3%) were manifested by lower income LKR <70,000/= participants compared higher income group (N=20, 44.4%), giving a statistically significant association with p value <0.05.

There was a statistically significant association ($p=0.042$) of face mask disposing practice to a bin with a lid with income level with higher percentage of high-income families having wrong disposal practices ($N=26, 76.5\%$).

Conclusion – Majority of adults at market places have wrong face mask usage and disposal practices. These results of the study clearly highlight the importance of educating vendors and consumers at market places using a behavioural change communication approach. It is recommended to develop and publish a national policy to Sri Lanka on correct face mask usage and disposal practices.

Key words-Face masks, usage, disposal, COVID-19, market places