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Physical Distancing + Face mask Guidelines Compliance Amongst HCWs in St. Vincent's University Hospital Dublin, Ireland

Aimen Habib, Alveena Ishtiaq, Syama Gollapalli, Muhammad Shahzad* and Fahad Malik

Department of Trauma and Critical Care, St Vincent University Healthcare Group, Elm Park, Dublin 4, Ireland

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***Corresponding author:**
Muhammad Shahzad

nimih70@yahoo.com

Tel: 00353851080460

Department of Trauma and Critical Care, St Vincent University Healthcare Group, Elm Park, Dublin 4, Ireland

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Background and Aim

Studies have indicated that person to person transmission has been described for COVID-19 even prior to the onset of symptoms [1-3]. The usage of face masks prior to the development of symptoms in the primary case has been shown to be 79% effective in reducing the transmission of COVID-19 [4]. Some theories outlining cascading "super spreading" events have been proposed to explain the rapid surge of cases worldwide [5,6]. Over a quarter of Health care workers HCW (26.4% n=4009) have tested positive for COVID-19 in Ireland as of April 2020 [7]. Health and safety of HCWs is paramount as they are at the frontline against COVID-19 and if infected, they may spread the infection to other Health Care Workers (HCW) and members of the general public. Healthcare workers may also be sharing accommodation with other HCWs in other health care facilities, once again increasing the risk of spread of this virus.

The Health Services Executive has recommended physical distancing of at least two meters (6.5 feet) to minimize person to person droplet spread of COVID-19 [8]. The HPSC has also recommended that in addition to hand hygiene measures and social distancing surgical masks should be worn by all healthcare workers for all encounters, lasting 15 minutes or longer, with other healthcare workers in the workplace where a distance of 2m cannot be maintained [9]. This audit aims to assess the compliance with HSE guidelines amongst HCWs and to identify particular settings/locations which lacked compliance with HSE and HPSC guidelines so as to optimise physical distancing standards, face mask compliance and to limit the spread of COVID-19.

Methodology

A prospective cross-sectional audit was undertaken after approval from the Clinical Audit Department, St. Vincent's University Hospital. Communication high lighting the aims of this audit were circulated to all HCWs within the hospital prior to data collection. Data was recorded on proforma sheets between 28/04/20 and 19/05/20. Data was gathered by different grades of doctors including Intern, SHO and Registrar in various clinical settings by convenience sampling at varying times and locations to minimise selection bias. Estimated 2 metre distance among individuals was guided by floor markings, and in instances where no floor markings were present, an estimated visual measurement was undertaken. Data was then compiled using Microsoft Excel into representative graphs.

Results

A total of 175 HCWs were observed during 42 encounters after a pilot data collection. HCWs from various departments were observed i.e. Doctors, Nurses, Occupational therapists, Physiotherapists, Phlebotomists, Catering staff, Cleaning staff, Porters and Security Personnel.

Number of Encounters

On average 4.1 healthcare workers were observed together at any time point.

62% of HCW interactions recorded were between Doctors.

18% of HCW interactions recorded were between Nurses.

1% of HCW interactions recorded were between Catering Staff.

1% of HCW interactions recorded were between Housekeeping/ Cleaning staff.

6% of HCW interactions recorded were between MDT including PT, OT, MSW.

6% of HCW interactions recorded were between the rest of the staff including Pharmacists, Receptionists, Security, Secretary and porters.

6% of HCW interactions recorded were of a "Mixed Category", i.e. included interactions between various categories of Healthcare Workers with unknown designation to us **(Figure 1).**

Total Number of HCWs observed

The purposes of HCW interactions were also identified and recorded as follows:

32% of interactions recorded were for the purposes of Clinical Discussion.

33% of interactions recorded were for the purpose of Social Chat.

18% of interactions recorded were for the purposes of Lunch/ Dinner/Queue at canteen/Serving food.

11% of interactions recorded were for the purposes of Clinical Handover.

6% of interactions recorded were for other purposes e.g. waiting in the line for scrubs/waiting in reception/Cleaning purposes **(Figure 2).**

Purpose of HCWs Being Together

One of our aims was to identify whether HCWs were maintaining appropriate social distancing (2m). We excluded situations where this would not be realistically possible, e.g. Surgical Theatres and other procedural rooms, for the purposes of this study **(Figure 3).**

Social Distancing Compliance

We found that 67% of interactions recorded lasted >15 mins while 33% of interactions recorded lasted <15 mins.

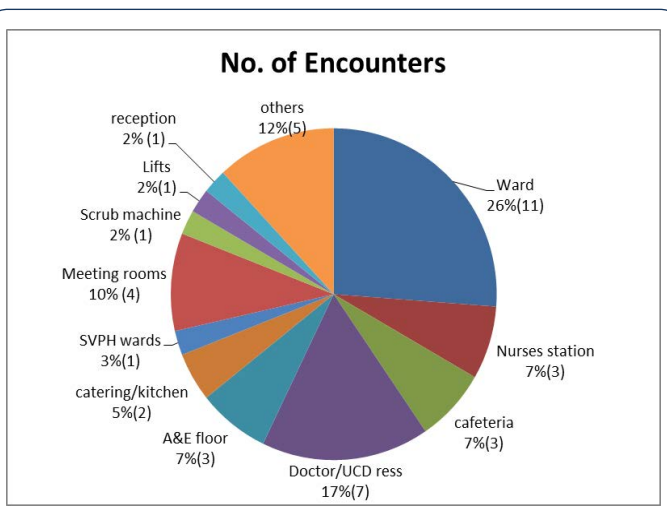

Figure 1 Number of encounters.

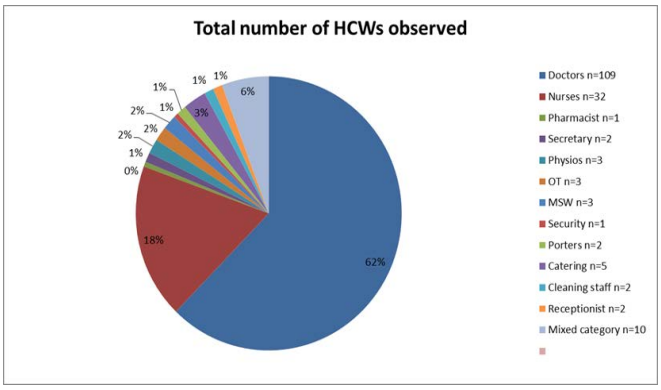

Figure 2 Total number of HCWs observed.

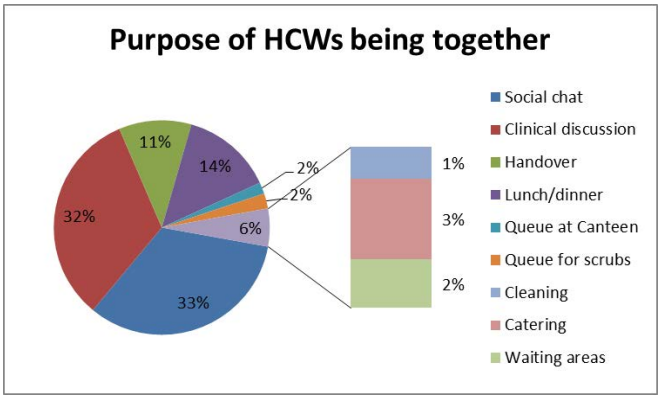

Figure 3 Purprose of HCWs being together.

Figure 4 Social distancing compliance.

Out of the 175 HCWs observed, only 55 HCWs (31.4%) were compliant with the social distancing guidelines proposed **(Figure 4).**

Face Mask Compliance

Face masks were indicated in n=86 (49.1%) amongst those observed and only n=12 (14%) in those indicated were compliant with the face mask guidelines.

The no of HCWs who were not wearing masks appropriately were n=3 **(Figure 5).**

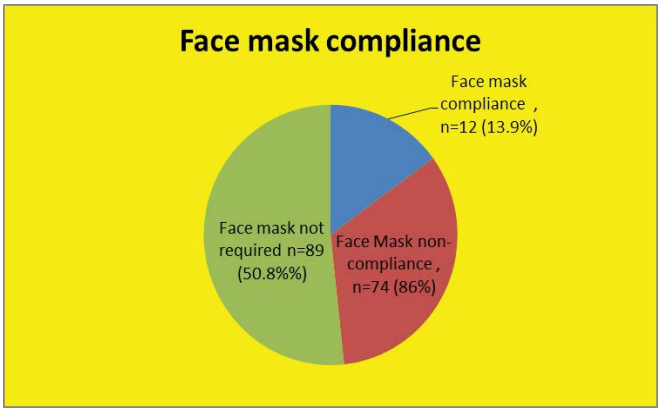

Figure 5 Face mask compliance.

Conclusion

Overall, compliance with Physical distancing and face mask guidelines was moderate among HCWs and this can present a risk of COVID-19 spread amongst HCWs. Measures are needed to improve adherence to the guidelines.

Recommendation

1. Putting directional arrows on the floor within the hospital corridors e.g. stay on the left sign while walking at all times.

3. Putting signs on the lifts that "No more than 2 people are allowed"

4. Areas prone to over-crowding should be labelled as red zones and floors should be demarcated with cross signs or circles 2 × 2 metre cubically specially on nursing stations which is one of the most crowded areas throughout the working hours

5. Masks should be available in non-clinical areas as well where there is a risk of overcrowding e.g. Doctors/UCD Res

6. The seating should be modified in doctors Res e.g. replacing sofas with chairs or putting stickers on sofas to ensure 2 metre distance is maintained specially in lunch break when it's crowded

7. Scrubs that are worn in hospitals should have signs of physical distancing printed on them in prominent colour

8. Outer side of the Masks can be modified by putting an alert sign in colour regarding maintaining distance.

9. Recorded speaker announcement should be considered on entrance into the hospital and in areas at risk of over-crowding reminding about social distancing and masks

10. All staff members should receive email about this audit report, if no email then text alert, and consultants, registrars/ CNM should further stress the importance of distancing among the staff.

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