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Experience of Noninfectious Disease Doctors Redeployed to COVID-19 Duties in a Tertiary Center

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ABSTRACT

Objective: The global healthcare system was severely impacted by the coronavirus disease 2019 (COVID-19). Healthcare professionals, especially doctors, faced a tremendous amount of responsibility irrespective of the specialty and levels of experience. The majority of nations saw physicians from all medical specialties relocate to COVID-19 wards. Working outside of one's comfort zone would have a significant psychosocial impact, especially in a crisis like the pandemic. To describe the experience of noninfectious disease physicians redeployed to COVID-19 duties.

Materials and Methods: All noninfectious disease physicians who were redeployed to COVID-19 duties received a Google form with 25 questions. Using the Pearson chi-squared test and the Fisher exact test, the relationship between survey responses and working experience and department was investigated. Statistical threshold was set at $p<0.05$.

Results: Out of 180 respondents, 114 completed the survey in total. Most of the participants were female (64.9%) aged between 31–40 years old (86.8%) with 64.9% having 5–10 years of working experience. During the redeployment, 57% of respondents reported experiencing psychological effects, and 73.7% felt underprepared. However, 71.1% said their assignment to COVID-19 wards was beneficial, and 38.4% were willing to receive redeployment.

Conclusion: The results of the survey indicate that COVID-19 ward redeployment was successful because participants believed their participation was important and the lead team in the COVID-19 wards offered enough direction and assistance. Doctors are prepared to safely treat COVID-19 patients, thanks to the intensive crash course and their fundamental medical knowledge.

Keywords: Coronavirus disease 2019, severe acute respiratory syndrome Coronavirus 2, redeployment COVID-19, healthcare workers

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INTRODUCTION

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which has swept the world and strained resources while damping the healthcare system, has now lasted for a full 2 years (1). However, lack of information pertaining to the viral etiology, infection risk factors, clinical manifestations and its results, disease prognosis, and preventative and containment strategies poses a challenge to the healthcare system (2).

Immediate issues faced globally during the outbreak within the healthcare system were lack of healthcare personnel, especially those educated in infectious diseases, sudden dire shortage in the availability of equipment, as well as rise in the number of healthcare workers who contracted COVID-19 (3).

Doctors are regarded as being the most important component of a successful response management strategy of coronavirus disease 2019 or COVID-19 pandemic (4, 5). Among the swift significant measures done to offset the scarcity of doctors was to redeploy doctors regardless of subspecialty and experience to COVID-19 who were expected to manage COVID-19 (6) patients, including the severely sick ones ensuing a crash course in managing these patients.

The purpose of this survey is to learn more about the experience of noninfectious disease physicians who have been assigned to COVID-19 duties. However, the current survey was necessary not only to identify the difficulties encountered by doctors from other specialties who were assigned to COVID-19 wards and but also to learn how we can further enhance the level of preparedness of these doctors. This information serves as an additional foundation for enhancing healthcare services delivered to COVID-19 patients during the pandemic and in the future.

MATERIAL and METHODS

This cross-sectional survey study was carried out among noninfectious disease clinicians redeployed to the COVID-19 wards in a single tertiary center in Malaysia in October 2021 following ethics permission from the University of Malaya Medical Centre Ethics Committee MECID No. 2021810-10467. Participants were contacted and informed regarding the study goals using Google forms distributed via WhatsApp groups and emails. They received guarantees that participation was optional, and the data collected was kept private.

A 25-question Google form survey was sent to all noninfectious disease doctors redeployed to the COVID-19 wards (Supplementary). Recipients were sent one message reminder 2 weeks prior the survey deadline. The survey was kept open for 1 month from the initial date issued to closing to lessen the bias of the result at a specific period. The first section contained demographic information about the participants, including age, gender, race, years of experience, present affiliation, and position. The second part of the survey concentrated on preparation prior to being redeployed to COVID-19 duties such as crash course, vaccination, mask-fitting test, and experience working in COVID-19 wards, and the final section of the survey was the doctor's view of their relevance and result of the redeployment. The demographic characteristics and survey responses of the participants were presented using descriptive statistics. In view of the categorical nature of the data collected, they were presented as frequency and percentage. The relationship between survey responses and working experience and department was investigated using Pearson chi-squared test and Fisher exact test. The statistical threshold was set at $p<0.05$. Data were analyzed using SPSS version 26.0.

RESULTS

A total of 180 physicians who were redeployed to COVID-19 tasks were contacted, of which 114 respondents completed the survey and were included in the study (63.3%). The majority of the participants were female (64.9%) aged between 31 and 40 years old (86.8%). 44.7% of them were from the Malay ethnicity, followed by Chinese (34.2%), Indian (17.5%), and other races (3.2%). The participants were predominantly residence in training (71.9%), with more than half of them having 5–10 years of working experience (64.9%). Majority of the participants were from ENT department (21.9%), followed by obstetrics and gynecology (20.2%), and radiology (12.3%). 98.2% completed both doses of vaccination prior to the deployment. In addition, 75.4% were deployed to COVID-19 wards for a duration between 2 and 4 weeks.

Demographic information is summarized in Table 1.

Eighty-four (73.7%) of the participants felt unprepared to work in the COVID-19 ward. However, 52.6% said that the modules on COVID-19 training had prepared them for the position. Notably, 69.3% of the participants underwent mask-fitting prior to redeployment, of which 33.3% were not using the proper mask. The majority of them claimed that they were not offered a choice before being redeployed to COVID-19 wards (90.4%).

71.1% believed that their placement in the COVID-19 ward was important, while 98 participants said that they received sufficient assistance from the primary team when needed.

Additionally, 86 participants expressed concerns about contracting COVID-19 during their postings, although only 7.9% of the participants contracted COVID-19 throughout the redeployment period. In the same vein, more than half of the participants disagreed with being redeployed (61.4%), albeit 45.6% thought that nonmedical specialty doctors should be dispatched to cover COVID-19 wards.

Table 1. Demographic characteristics of the participants (n=114)

Demographic variables	Frequency (%)
Total invitation	180
Total respondents	114 (63.3)
Age	
Under 30	7 (6.1)
31–40	99 (86.8)
41–50	6 (5.3)
51–60	2 (1.8)
Gender	
Female	74 (64.9)
Male	40 (35.1)
Race	
Malay	51 (44.7)
Chinese	39 (34.2)
Indian	20 (17.5)
Other	4 (3.5)
Department	
ENT	25 (21.9)
General surgery	7 (6.1)
Internal medicine	6 (5.3)
Microbiology	5 (4.4)
O&G	23 (20.2)
Oncology	4 (3.5)
Ophthalmology	11 (9.6)
Orthopedics	4 (3.5)
Pathology	5 (4.4)
Psychiatry	2 (1.8)
Radiology	14 (12.3)
Rehabilitation medicine	7 (6.1)
Sport medicine	1 (0.9)
Current position	
Consultant	8 (7.0)
Masters student	82 (71.9)
Medical officer	15 (13.2)
Specialist	9 (7.9)
Working experience in specialized field	
Less than 5 years	29 (25.4)
5–10 years	74 (64.9)
10–20 years	10 (8.8)
Over 20 years	1 (0.9)

ENT: Ear, nose and throat; O&G: Obstetrics and gynecology

The vast majority of them were concerned that the care at their primary specialty was impacted (79.8%), while 86% said that there was a loss of educational opportunity in their primary field. However, 57.0% of them were psychologically affected during or after COVID-19 ward duty. Survey responses are summarized in Table 2.

Table 2. Survey responses

Item	Questions	Frequency (%)
1	Did you finish both doses of COVID-19 vaccine before your posting?	
	No	2 (1.8)
	Yes	112 (98.2)
2	If yes, how soon after your second dose of vaccination did you get redeployed?	
	Less than 2 weeks	1 (0.9)
	2–4 weeks	3 (2.6)
	1–3 months	30 (26.3)
	More than 3 months	80 (70.2)
3	How long were you redeployed to COVID-19 wards?	
	Less than 2 weeks	21 (18.4)
	2–4 weeks	86 (75.4)
	1–3 months	7 (6.1)
4	Do you think you were well-prepared before joining to serve the COVID-19 ward?	
	No	84 (73.7)
	Yes	30 (26.3)
5	Did you finish the COVID-19 modules in Schoology before redeployment?	
	No	15 (13.2)
	Partially	17 (14.9)
	Yes	82 (71.9)
6	If yes, did these modules help you for the posting?	
	No	38 (33.3)
	Yes	60 (52.6)
7	Did you get fitted with the required mask before redeployment?	
	No	35 (30.7)
	Yes	79 (69.3)
8	Following mask-fitting, was your present mask type suitable?	
	No	38 (33.3)
	Yes	76 (66.7)
9	Were you given an option before being redeployed to COVID-19 wards?	
	No	103 (90.4)
	Yes	11 (9.6)
10	Do you believe your selection for the COVID-19 wards was critical/significant/well-served?	
	No	33 (28.9)
	Yes	81 (71.1)
11	Do you believe you received the right support or direction when needed?	
	(In terms of discussing management of COVID-19 patients with ID)	
	No	16 (14.0)
	Yes	98 (86.0)
12	Were you afraid of getting COVID-19 during your posting in COVID-19 wards?	
	No	28 (24.6)
	Yes	86 (75.4)
13	Did you develop COVID-19 during your posting?	
	No	105 (92.1)
	Yes	9 (7.9)

Table 2 (cont). Survey responses

Item	Questions	Frequency (%)
14	Do you believe as you were redeployed to COVID-19 wards, the care at your major specialty is affected?	
	No	23 (20.2)
	Yes	91 (79.8)
15	Do you believe as a result of the redeployment period, there is loss of education opportunity in your primary field?	
	No	16 (14.0)
	Yes	98 (86.0)
16	Do you think you will agree to be redeployed to serve at COVID-19 wards again if given the option?	
	No	70 (61.4)
	Yes	44 (38.6)
17	Do you believe your awareness on COVID-19 has increased after working in COVID-19 wards?	
	No	11 (9.6)
	Yes	103 (90.4)
18	Do you believe nonmedical specialty doctors should be sent to cover COVID-19 wards?	
	No	62 (54.4)
	Yes	52 (45.6)
19	Were you psychologically affected during/after COVID-19 ward duty?	
	No	49 (43.0)
	Yes	65 (57.0)

The relationship between COVID-19 survey questions and years of experience was examined using Pearson chi-squared test and Fisher exact test. A substantial correlation was discovered between loss of educational opportunity with years of working experience, too (p=0.001). The percentage of doctors who were concerned about the loss of educational opportunity was much greater in those with working experience of less than 5 years (93.1%) as well as 5–10 years (90.5%). Comparison across survey responses is summarized in Table 3.

DISCUSSION

From this survey, we can conclude that the overall experience of doctors redeployed to COVID-19 duties revealed mixed results with 71.1% revealing that their placement in COVID-19 wards was well-served, and 38.4% agree to be redeployed again to serve COVID-19 duties, albeit 75.4% also responded that they were afraid of contacting COVID-19, while 57% of the responders felt that they were psychologically affected during their placement in COVID-19 wards.

The bulk of the doctors being redeployed were master's student (71.9%) aged between 31 and 40 (86.8%) with professional experience less than 10 years (90.3%). Seventy-five percent of doctors were redeployed for a period of 2 to 4 weeks. This unprecedented circumstance of mobilizing doctors hampered the opportunity of training and learning in their core specialty as stated by 86% of doctors in our center. Additionally, the fear of suitable training opportunities, which may impede professional advancement, adds to the distress among most junior doctors. However, it is noteworthy that in the majority of centers, most elective surgery and outpatient department appointments have been canceled or postponed. Simultaneously, ongoing education has been provided to both undergraduate and postgraduate medical students through a variety of online platforms around the country.

There was female predominance among the participants of the survey (64.9%). This can be due to the fact that the majority of healthcare employees globally are female (7). However, women have a tendency to volunteer for or participate in research and surveys at a higher rate than men (8).

A properly fitted and adequate mask is essential, especially for healthcare staff who may come into contact with COVID-19 patients. Respiratory protective equipment only serves its purpose when a sufficient seal is present between the mask and the user's face to ensure that the breathe air is filtered. An inadequate seal is viewed as unnecessary and is regarded as the main source of airborne transmission among face mask users (9). Therefore, mask-fitting is crucial as it guarantees a reduced spread of fine particles which concurrently results in the reduction of community spread. In our facility, a qualitative mask fit test was required before any of them were redeployed to COVID-19 wards to ensure that every doctor is completely protected while working with critically ill COVID-19 patients. Thirty-three percent of the doctors concluded that the current mask was inappropriate following the mask-fitting test. Despite the severe global scarcity of personal protective equipment (PPE), the healthcare professionals in our center received enough PPE for the duration of their COVID-19 duties.

It is important to keep in mind that working outside of one's comfort zone might be stressful, especially if it means doing so in a dangerous situation. Fifty-seven percent of the doctors in our center said that they were psychologically affected during the period of redeployment. Additionally, they were being exposed to a high-

Table 3. Association between years of experience with COVID-19 survey responses

Question		Less than 5 years	5–10 years	10–20 years	p
1	No	0 (0.0)	2 (2.7)	0 (0.0)	0.950[b]
	Yes	29 (100.0)	72 (97.3)	10 (100.0)	
2	Less than 2 weeks	8 (27.6)	19 (25.7)	3 (30.0)	0.945[b]
	2–4 weeks	0 (0.0)	3 (4.1)	0 (0.0)	
	1–3 months	0 (0.0)	1 (1.4)	0 (0.0)	
	More than 3 months	21 (72.4)	51 (68.9)	7 (70.0)	
3	Less than 2 weeks	7 (24.1)	11 (14.9)	3 (30.0)	0.408[b]
	2–4 weeks	19 (65.5)	59 (79.7)	7 (70.0)	
	1–3 months	3 (10.3)	4 (5.4)	0 (0.0)	
4	No	21 (72.4)	56 (75.7)	6 (60.0)	0.568[a]
	Yes	8 (27.6)	18 (24.3)	4 (40.0)	
5	No	4 (13.8)	9 (12.2)	2 (20.0)	0.946[b]
	Partially	4 (13.8)	12 (16.2)	1 (10.0)	
	Yes	21 (72.4)	53 (71.6)	7 (70.0)	
6	No	8 (34.8)	26 (40.0)	4 (44.4)	0.857[a]
	Yes	15 (65.2)	39 (60.0)	5 (55.6)	
7	No	10 (34.5)	23 (31.1)	1 (10.0)	0.330[a]
	Yes	19 (65.5)	51 (68.9)	9 (90.0)	
8	No	11 (37.9)	24 (32.4)	3 (30.0)	0.841[a]
	Yes	18 (62.1)	50 (67.6)	7 (70.0)	
9	No	29 (100.0)	67 (90.5)	6 (60.0)	0.003[b]
	Yes	0 (0.0)	7 (9.5)	4 (40.0)	
10	No	9 (31.0)	21 (28.4)	3 (30.0)	0.963[a]
	Yes	20 (69.0)	53 (71.6)	7 (70.0)	
11	No	4 (13.8)	9 (12.2)	3 (30.0)	0.269[b]
	Yes	25 (86.2)	65 (87.8)	7 (70.0)	
12	No	11 (37.9)	13 (17.6)	3 (30.0)	0.083[a]
	Yes	18 (62.1)	61 (82.4)	7 (70.0)	
13	No	25 (86.2)	69 (93.2)	10 (100.0)	0.379[b]
	Yes	4 (13.8)	5 (6.8)	0 (0.0)	
14	No	9 (31.0)	10 (13.5)	3 (30.0)	0.088[a]
	Yes	20 (69.0)	64 (86.5)	7 (70.0)	
15	No	2 (6.9)	7 (9.5)	6 (60.0)	0.001[b]
	Yes	27 (93.1)	67 (90.5)	4 (40.0)	
16	No	20 (69.0)	47 (63.5)	3 (30.0)	0.082[a]
	Yes	9 (31.0)	27 (36.5)	7 (70.0)	
17	No	4 (13.8)	6 (8.1)	1 (10.0)	0.610[b]
	Yes	25 (86.2)	68 (91.9)	9 (90.0)	
18	No	16 (55.2)	44 (59.5)	2 (20.0)	0.063[a]
	Yes	13 (44.8)	30 (40.5)	8 (80.0)	
19	No	11 (37.9)	33 (44.6)	4 (40.0)	0.816[a]
	Yes	18 (62.1)	41 (55.4)	6 (60.0)	

a: Pearson chi-squared test; b: Fisher exact test

risk workplace while subjecting themselves to the risk of contracting COVID-19, death, burnout, fatigue from long working hours, as well as moral distress. Redeployment to a specialty outside of their area of expertise especially in a crisis situation like COVID-19 may potentially risk optimal care to the patients. In contrast, a survey conducted at 3 NHS trusts among 172 redeployed doctors found an overall positive result whereby 66.3% reported feeling confident with their new position, and only 31.4% felt stressed at work. However, issues with training opportunities, PPE, and family health were evident.

Learning modules or quick crash courses pertaining to COVID-19 management were developed and constantly updated to prepare the doctors prior to the redeployment. In our facility, all doctors were required to finish a mandatory online training prior to serving the COVID-19 wards. 73.7% responded that they were not well-prepared prior to the redeployment. However, more than 52% responded that the modules had adequately equipped them to care for COVID-19 patients. Similar to that, redeployment induction training among doctors in NHS trust is thought to increase confidence among doctors (10).

38.6% of the physicians consented to be redeployed to COVID-19 wards again to perform their duties. Interestingly, 90.4% of physicians say that the awareness of COVID-19 has grown after the COVID-19 duties.

The current study has certain drawbacks. These consist of a small sample size with one network of participants; Google form surveys may have some drawbacks as not being representative. Next, no verified survey was employed. Having said that, our research offers preliminary information on the experience of nonmedical doctors redeployed to COVID-19 duties. In addition, we recommend a multicenter longitudinal design study with a large sample size with a control group in the future.

CONCLUSION

Although ongoing research with a variety of different treatments and vaccines are being done, to date, how and when will COVID-19 end is still unclear. The ongoing pandemic requires enormous assistance from medical professionals, especially doctors. The redeployment of physicians to COVID-19 duties has demonstrated a successful result. According to this study, physicians redeployed to COVID-19 duties thought that their contribution was significant. Armed with the intense crash course and fundamental medical knowledge, doctors are prepared to treat COVID-19 patients safely.

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REFERENCES

1. Tanne JH, Hayasaki E, Zastrow M, Pulla P, Smith P, Rada AG. Covid-19: How doctors and healthcare systems are tackling coronavirus worldwide. BMJ 2020; 368: m1090. [CrossRef]
2. Nallasamy K, Angurana SK, Jayashree M, Mathew JL, Bansal A, Singh MP, et al; Pediatric COVID Management Team. Clinical profile, hospital course and outcome of children with COVID-19. Indian J Pediatr 2021; 88(10): 979–84. [CrossRef]
3. Levin PJ, Gebbie EN, Qureshi K. Can the health-care system meet the challenge of pandemic flu? Planning, ethical, and workforce considerations. Public Health Rep 2007; 122(5): 573–8. [CrossRef]
4. Shipchandler TZ, Nesemeier BR, Schmalbach CE, Ting JY. Otolaryngologists' role in redeployment during the COVID-19 pandemic: A commentary. Otolaryngol Head Neck Surg 2020; 163(1): 94–5.
5. Muhammad Nur Amir AR, Binti Amer Nordin A, Lim YC, Ahmad Shauki NI, Ibrahim NH. Workforce mobilization from the National Institutes of Health for the Ministry of Health Malaysia: A COVID-19 pandemic response. Front Public Health 2021; 9: 574135. [CrossRef]
6. Coughlan C, Nafde C, Khodatars S, Jeanes AL, Habib S, Donaldson E, et al. COVID-19: lessons for junior doctors redeployed to critical care. Postgrad Med J 2021; 97(1145): 188–91. [CrossRef]
7. Regenold N, Vindrola-Padros C. Gender matters: A gender analysis of healthcare workers' experiences during the first COVID-19 pandemic peak in England. Soc Sci 2021; 10(2): 43. [CrossRef]
8. Saniasiaya J, Islam MA, Abdullah B. Prevalence of olfactory dysfunction in coronavirus disease 2019 (COVID-19): A meta-analysis of 27,492 patients. Laryngoscope 2021; 131(4): 865–78. [CrossRef]
9. Cooper D, Hinds WC, Price JM, Weker R, Yee HS. Common materials for emergency respiratory protection: Leakage tests with a manikin. Am Ind Hyg Assoc J 1983; 44(10): 720–6. [CrossRef]
10. Faderani R, Monks M, Peprah D, Colori A, Allen L, Amphlett A, et al. Improving wellbeing among UK doctors redeployed during the COVID-19 pandemic. Future Healthc J 2020; 7(3): e71–6. [CrossRef]