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ORIGINAL ARTICLE

Experiences of Non-ICU Nurses' Redeployment in ICU during Covid-19 Pandemic

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ABSTRACT

Background: Staff that were redeployed from different departments to the intensive care unit (ICU) dealing with COVID-19 infected patients have had social, psychological, and physical effects as a result of the COVID-19 pandemic.

Objective: To evaluated the challenges and experiences of the non-ICU nursing staff when they were redeployed during the current pandemic.

Study Design:

Place and Duration of Study: Riyadh Healthcare from 1st July 2021 to 31st December 2021

Methodology: Two hundred and thirty-eight respondents were enrolled.

Results: 70.6% of redeployed staff claimed very satisfied with neutral behaviour. 80.7% of nurses had the choice before redeployment, and 33.6% of staff felt happy to be redeployed to the ICU. 26.9% were neutral, while only 16.8% of nurses reported feeling very unhappy. Orientation was attended by 81.5% of staff, 54.6 % found it uses full. 50% of participants said they had the same workload as their previous departments, but only 5% of staff complained about a lot more work. The attitude of ICU staff and appreciation of administration showed positive answers compared to complaints in this regard (44.4 and 51.5% positive answers respectively). 63.1% of staff was clear about their role when redeployed to ICU. 47.1% of staff was satisfied, 23.5% remained neutral and 5.9% were dissatisfied with the redeployment. 45.4% claimed their redeployment was useful from a patient care perspective. 83.2% of nurses found new acquaintances useful in ICU and get good support from them.

Conclusion: Several factors can contribute to nurses' dissatisfaction with their redeployment from non-ICU areas, according to this study, including increased workload, poor orientation, a lack of hospital and ICU staff cooperation, and their preferences for where they should work. For the sake of avoiding such issues in the future, these regions must be organized properly. When faced with a pandemic of COVID-19, the healthcare system must be ready with creative solutions that can be applied in a practical situation.

Keywords: Corvid-19, healthcare provider, redeployment, Intensive care Unit, Nursing Staff.

INTRODUCTION

The emergence of new diseases such as COVID-19 leads to a situation that is difficult to deal with and demands a lot of specialized human resources. Pandemics in most cases became uncontrollable due to the scarcity of human resources. Diagnoses, treatments, and care normally provided can be delayed due to the re-distribution of limited resources in response to situations like pandemics.[1] The nursing department which is the main pillar of the health care system has to face excessive redeployment from the different departments of the hospital to the ICU during COVID-19 pandemics. Nurses with particular competencies were redeployed and called upon to perform tasks, requiring skills for which they had less experience.[2]

In the situation when the workload has increased, the healthcare system facing an exponentially increasing flow of critically ill patients, the job satisfaction of an employee depends upon how efferent and ethically the hospital along with other supporting staff manages the situation. It has been noted to have an impact on employee morale and job satisfaction.[3] The extent of emotional stigma and distress is influenced by many factors, including the nature of the individual, the workplace, hospital, and family support. Intensive care nurses and those reassigned to key areas of health care systems, dealing with critically ill patients, made a fundamental contribution during the pandemic. Their ability to treat the growing number of seriously ill patients was much needed and a compulsory fact of the time.[4] Therefore, their well-being is essential to allow them to perform their duties efficiently. It is evident from the previous waves of the COVID-19 that the ICU nurses were working in a highly stressful environment because there are other challenges, such as the supervision of redeployed employees who have little or no ICU experience and nurses providing care while wearing personal protective equipment; connecting and supporting distant family members; have a potential threat to personal and family health.[5,6] This could increase job-related stress, with negative impacts on individuals, units and organizations.[7]

Redeployed nurses also face the added barrier of working in an unfamiliar environment and may believe that they lack the skills to take care of these critically ill patients. Work-related stress in critical care nurses may cause a range of physical and psychological symptoms, which manifest as burnout.[8] Before COVID-19, the burnout rate in critical care nurses was estimated to be between 16% and 33%. This results in negative impacts on the quality of care, increased staff illness and staff turnover.[9,10]

This study is intended to assess the experiences of nurses redeployed to critical care units during the COVID-19 epidemic as well as work-related stress and the impact of various factors that affect the quality of care and satisfaction levels of staff.

MATERIALS AND METHODS

This questionnaire-based survey was done from 1st July 2021 to 31st December 2021. The Google form was distributed to the nursing department of the three major hospitals of the Riyadh healthcare cluster **(**an integrated cluster network that shares, resources, manpower, and equipment). A team of multidisciplinary clinicians at the hospital designed and tested the questionnaire for clarity and response time. The survey consisted of various sections. The first section contains information about their demography and past work environment following the section included protocols before Nurses were redeployed to ICU. The

next section assessed various factors over the course of the redeployment and in the last section we assessed the overall level of satisfaction following redeployment and the correlation of dissatisfaction status with various factors. A section was also added to the questionnaire to inquire about major concerns of nursing staff regarding the redeployment of critical care units. A trained person who did not know the names and diplomas of the participants gathered the results. A group of three experienced individuals from the research group reviewed the extracted data to verify its accuracy. All the questions related to the satisfaction levels were answered on a 5-point Likert scale. The study was approved by the ethical review board of the hospitals. Written consent was given by the participants as they submitted the survey. Descriptive statistics were used to look at the frequencies of variables and Spearman's correlation was used to measure the correlation between the factors and data analyzed by using the SPSS software version 25.

RESULTS

The response rate was 66.6% as 537 nurses were contacted to fill the response form and we received 358 forms. From 358 we excluded 120 forms that did not meet the inclusion criteria. In the end, we left with 238 complete responses for the analysis. Demographics showed 98.3% of respondents were females and belonged to younger age groups (72%, 25-34 years). 78.2% of nurses redeployed had the degree of Bachelor of Science in Nursing. 70.6% of nurses had experienced greater than 6 years, but only 22.7% had previous ICU experience. 86.6% of nurses did not have any comorbid condition. The majority of nurses were vaccinated, and the previous status of infection with COVID-19 and other comorbid conditions (Table 1).

Table 1: Demographics of the respondents

Variable	No.	%
Gender		
Male	4	1.7
Female	234	98.3
Age (years)		
25 - 34	182	72.3
35 - 45	38	16.0
45 - 54	26	10.9
>55	2	0.8
Nursing Degree		
Diploma	44	18.5
BSN[1]	186	78.2
Master	8	3.4
Experience (years)		
2-5	70	29.4
6-10	98	41.2
<10	70	29.4
ICU Experience		
No	184	77.3
Yes	54	22.7
Vaccination Status		
No	10	4.2
1 Dose	116	48.7
2 Dose	112	47.1
Covid-19 infection status		
No	152	63.9
Yes	86	36.1
Comorbid Condition		
No	206	86.6
Hypertension	16	6.7
Low blood Sugar	2	0.8
Diabetes Mellitus	2	0.8
PCOD[2]	2	0.8
Cardiac Disease	2	0.8
Obesity	2	0.8
Bronchial Asthma	4	1.7
Hypothyroidism	2	0.8

[1]Bachelor of Science in Nursing, [2]Poly cystic ovarian disease

Table 2: Experiences and status of nursing staff redeployed

Variable	No.	%
Choice of Redeployment		
Yes	192	80.7
No	46	19.3
Feeling		
Very unhappy	40	16.8
Unhappy	54	22.7
Neutral	64	26.9
Happy	58	24.4
Very Happy	22	9.2
Orientation status		
No	44	18.5
Yes	194	81.5
Orientation evaluation		
Not Attended	44	18.5
Very Un-useful	12	5.0
Un-useful	14	5.9
Neutral	38	16.0
Useful	76	31.9
Very Useful	54	22.7
Working days per month in ICU		
16	12	5.0
17	4	1.7
18	10	4.2
19	180	75.6
20	12	5.0
21	20	8.4
Working hours per shift in ICU		
8	32	13.4
12	206	86.6
Workload evaluation		
Much less	2	0.8
Less	42	17.6
Equal	120	50.4
More	62	26.1
Much more	12	5.0
Off days comparison		
Increased	20	8.4
Decreased	182	76.5
Remain same	36	15.1
Attitude of ICU Staff		
Very Negative	20	8.4
Negative	34	14.3
Neutral	78	32.8
Positive	54	22.7
Very Positive	52	21.8
Admin Appreciation		
Very Negative	10	4.2
Negative	44	18.5
Neutral	62	26.1
Positive	38	16.0
Very Positive	84	35.3
Main Role		
Bedside Nurse	224	94.1
Non-Bedside /Supporting Nurse	14	5.9
Very Unclear	06	2.5
Clarity		
Very Unclear	6	2.5
Unclear	28	11.8
Neutral	54	22.7
Clear	88	37.0
Very Clear	62	26.1

This demonstrated that most of the nurses were redeployed from the medical words, operating rooms and general surgery (Fig.----1). Table 2 shows that 80.7% of nurses were given the choice before redeployment and 33.6% of staff felt happy on redeployment to the ICU, 26.9% remained the neutral whereas only 16.8% of nursing staff complained of very unhappy feelings. Orientation was attended by 81.5% of staff before redeployment and 54.6 % admired the orientation and found it useful for their ICU work. 50% of participants claimed to have the same workload as their previous departments only 5% of staff complained of much

more work. As far as the attitude of ICU staff and appreciation of administration is concerned, the data showed 44.4 and 51.5 % positive answers respectively and very fewer negative answers were given by the staff (8.4% and 4.2%). 63.1 % of staff were clear about their role when they were redeployed to the ICU. 47.1 % of staff were satisfied and 23.5 % remained neutral and 5.9% were very unsatisfied with their redeployment. 45.4% claimed their redeployment was useful from a patient care perspective. Most of the nurses did not intend to pursue ICU permanently or remained neutral in this regard. 83.2% of nurses found new acquaintances useful in ICU and also get good support from them (Table 3). Figure 2 showed that the workload, fair ability to fulfil the task and daily life disturbance were the major concern before redeployment to ICU.

Spearman's correlation showed positive correlation satisfaction levels with the choice of redeployment, ICU staff attitude, administration appreciation, support from the new acquaintance (r= 0.336 p=0.00, r=0.67 p=0.00, r= 0.55 p= 0.00 and r=0.58 p=0.00 respectively). As the satisfaction levels of staff increase, the chances of their pursuance of ICU training also increased (r= 0.60 p=0.00). whereas workload is inversely correlated with satisfaction levels (r= -0.45 p=0.00). The major concerns reported in our study were the increase in workload, fair lack of ability to fulfil the task and daily life disturbance of redeployed staff (Table 4).

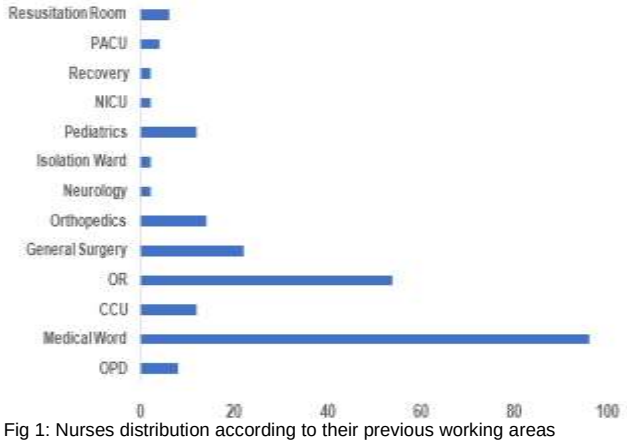

Fig 1: Nurses distribution according to their previous working areas

Table 3: Satisfaction levels redeployed nursing staff

Variable	No.	%
Self-satisfaction in fulfilling the role		
Very unsatisfied	18	15.1
Unsatisfied	15	12.6
Neutral	30	25.2
Satisfied	39	32.8
Very satisfied	17	14.3
Satisfaction levels of redeployed staff		
Very unsatisfied	7	5.9
Unsatisfied	28	23.5
Neutral	28	23.5
Satisfied	34	28.6
Very satisfied	22	18.5
Patient care evaluation		
Very Un-useful	10	8.4
Un-useful	9	7.6
Neutral	46	38.7
Useful	35	29.4
Very Useful	19	16.0
New acquaintances		
No	20	16.8
Yes	99	83.2
Support from new acquaintances		
Very un-supportive	12	10.1
Un-Supportive	18	15.1
Neutral	37	31.1
Supportive	34	28.6
Very Supportive	18	15.1
Willing to Choose ICU permanently		
Very Un-likely	52	43.7
Un-likely	17	14.3
Neutral	26	21.8
Likely	13	10.9
Very Likely	11	9.2
Pursue ICU training		
Very Un-likely	28	23.5
Un-likely	17	14.3
Neutral	33	27.7
Likely	25	21.0
Very Likely	16	13.4

Table4: Spearmen's correlation metrics

	1	2	3	4	5	6	7
Peruse of ICU training	1.00						
Support from new acquaintance	.58**	1.00					
Satisfaction levels	.60**	.66**	1.00				
Admin appreciation	.51**	.55**	.51**	1.00			
ICU staff attitude	.47**	.67**	.61**	.55**	1.00		
Workload	-.38**	-.35**	-.45**	-.38**	-.29**	1.00	
Choice of redeployment	.336**	.228*	.322**	.120	.027	-.232*	1.00

**Correlation is significant at the 0.01 level (2-tailed) *Correlation is significant at the 0.05 level (2-tailed)

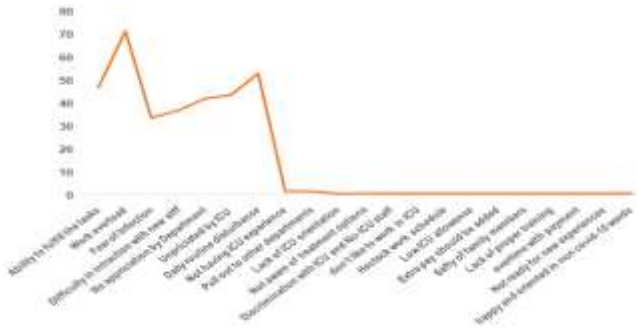

Fig 2: Workload, fair of ability to fulfill the task and daily life disturbance were the major concern of before redeployment to ICU

(PACU = post-anesthesia care unit, OR = operative room, CCU = coronary care unit, NICU = neonatal intensive care unit)

DISCUSSION

Trained nurses are the primary pillar of each health care institution that has a direct impact on morbidity and mortality rates of critically ill patients.[11] For effective and seamless work, it should be mandatory to offer a peaceful and less stressful environment. During pandemics, health care workers were confronted with an additional burden and tremendous stress, particularly in nursing care.[12] This is the leading cause of frustration and burnout syndrome.

In routine practices, the nurses are free to choose any department that suits their mood or join the domain of their interest

in the hospitals, but in pandemics like COVID-19 nurses were redeployed against their choice.[13] Mousazadeh et al[14] reported that the nurses who were redeployed against their choice or were not asked their opinion before redeployment showed dissatisfaction and reported unhappy feelings during their work and this impacted the overall performance of the critical care unit. But in our study, we found 80.69% of staff were given choice before they were redeployed to the COVID-19 ICU. We also found a lower level of unhappy feelings (16.8%) as compared to the other studies. In general, redeployment is a voluntary choice and employees should not be forced to relocate. But in pandemics to cope with the situation, redeployment is a necessary move by the health care services.[15] There is no policy of redeploying staff to the area where they feel uncomfortable during pandemics. Thus, there is an urgent need to develop such policies and add redeployment in the contract so that if needed, staff can be redeployed in the best interests of patient care.

Before the start of a job or redeployment, the orientation about the job plays an important role in the overall progress of the organization. Orientation is an integral part of well-developed organizations.[16] But in healthcare facilities orientation is mostly overlooked, especially in pandemics. Health care organizations should understand and organize appropriate orientation for staff before redeployment so that they can conduct their work with clarity. This can reduce the anxiety of an unfamiliar place and also the anxiety of inability to work in the new place.[17] Of those who did not attend the orientation, 65.6% of staff reported they were not clear and neutral to this question as compared to those who attended the orientation showed 86.2% neutral to very clear status with regards to the job description in this study.

The workload for ICU nurses has increased significantly. To help and lower the burden non-ICU staff redeployed to the ICU during COVID-19.[18] The workload of non-ICU nurses should be interpreted with caution. In our study, we only analyze their workload relative to their previous place of employment. In our study, 5% of redeployed nurses complained of a higher workload whereas 50% claimed the same workload as their previous workplace. But no doubt the overall workload of ICU must be decreased by their redeployment as the extra staff was redeployed to cope with the situation.[19] In a previous study, higher Nursing Activities Score per Intensive Care nurse (76.5 versus 50.0, $p<0.001$) during the COVID-19 period compared to the non-COVID-19 period were noted. A meta-analysis showed a high burn-out rate during the COVID-19 pandemic contrary to our study.[20] The reason for low burnout status may be due to equal and same working hours and an extra incentive to the redeployed staff.

During emergencies, mutual coordination helps to remove collateral damage. The COVID-19 pandemic not only increases the stress level of hospital staff but also increases the anxiety level of hospital administration.[21] It's a very difficult task to manage the increased flow of critical patients deal with the hospital staff and manage the scarcity of human resources.[22] In our study, the attitude of ICU staff and appreciation of administration showed positive answers as compared to complaints. If we analyze the situation empathetically, the hospital administration is also facing the stress of pandemics and expects a positive attitude towards policies and necessary measures taken by then my best interest of the hospital and patient management.[23,24]

In the last section, we analyze the satisfaction levels of the redeployed staff, and we get good satisfaction levels on redeployment as compared to other studies. The main factors that directly increase the satisfaction levels were admin. This increased workload related to COVID-19 was mainly attributable to bedside nursing interventions, respiratory care such as prone positioning, hygienic procedures and taking care of the patient and his or her relatives. During the COVID-19 period, nurses from outside the ICU supported ICU nurses in delivering basic care to ICU patients. However, the opportunities and limitations to redeploying human resources to reduce the workload in critical care nursing require further research. This continues to be a relevant issue, also post-COVID-19, given the shortage of critical care nurses. Further research is also needed to analyze the impact of the high workload on the outcome of patient care.[25,26]

From our study, it can be recommended that the redeployment policy should be flexible and the deployment clause should be added to the contracts of nurses. Properly organized, short orientation and training programs should be mandatory before redeployment to the ICU Redeployment should be considered the skills of nurses and the administration and nursing in charge develop the strategies to maximize the transfer of skills to minimize the need for the training session. The daily short online session can arrange to speed up the training process and to communicate effectively.[27,28]

Online communication for a few minutes daily can also accelerate the mitigation process of daily problems faced by the redeployed staff in the ICU. In the end, the supportive working environment and extensive and effective collaboration between the hospital staff are the keys to overcoming the challenges of the COVID-19 pandemic. Incentives and regular appreciation from the administration boost the morale of redeployed nurses and this will increase the satisfaction levels and more nurses will pursue the ICU of their own choice.

CONCLUSION

Addressing existing health care challenges in the context of the current pandemic will require intensive collaboration. Multidisciplinary teams should build organizational capacity and optimize resources for the successful implementation of redeployment and training. Managing the key challenging factors, we identified in our study can enhance the flawless working capacity of intensive care units and, in addition, the health care system can effectively combat pandemics. In this way, the scarcity of human resources and the establishment of readily available useful healthcare responses for seriously ill patients can be achieved.

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