Sick Leave Characteristics Among Nurses of a Referral Hospital During COVID-19 Pandemic

Arezu Najafi[1], Khosro Sadeghniiat Haghighi[1], Esmaeil Mohammadnejad[2], Seyed Ali Dehghan Manshadi[3], Nazanin Izadi[4]

[1] Occupational Sleep Research Center, Baharloo Hospital, Tehran University of Medical Sciences, Tehran, Iran

[2] Department of Medical Surgical Nursing, School of Nursing and Midwifery, Tehran University of Medical Sciences, Tehran, Iran

[3] Department of Infectious Disease and Tropical Medicine, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran

[4] Center for Research on Occupational Disease, Tehran University of Medical Sciences, Tehran, Iran

Received: 12 Mar. 2021; Accepted: 01 Sep. 2021

Abstract- Hospital-related infections have been widely reported during the Covid-19 outbreak that exposes healthcare professionals to at greater risk of infection. This cross-sectional study was designed to evaluate the frequency of absenteeism in hospital staff during the first and second months of the Covid-19 pandemic, from 26 February until 19 April 2020. Occupational data and sickness absenteeism characteristics were collected from the records of the nursing management department. 304 (17.8%) had sick leave due to coronavirus or corona-like symptoms. Nurses and then nursing aid workers constituted the categories with more frequency of sick leave. The more median days of sick leave were observed among supervisors and midwives. About 80% of participants had typical symptoms of Coronavirus. In conclusion, the median days of sick leave due to coronavirus were not as high as we thought. This could be due to human resource shortage and insufficient knowledge regarding return-to-work guidelines in the early phase of this pandemic.

Acta Med Iran 2021;59(10):599-602.

Keywords: Coronavirus disease 2019 (COVID-19); Coronavirus; Hospital staff; Sickness absenteeism

Introduction

The coronavirus (COVID-19) was first detected in the Wuhan province of China in December 2019. The pathogen was identified to be a novel coronavirus on January 5, 2020, and then named SARS-CoV-2 (1).

Healthcare workers have a critical role in healthcare settings; also, they are at the front line dealing with patients, which puts them at higher risk of infection. Coronavirus infection affects people working life and, in particular, has led to high rates of absenteeism among hospital staff. As we know, human resources play an important role inadequate health service, and during the Covid-19 pandemic, human resource shortages have now reached critical levels in many countries. Otherwise, there is no clear information about the extent of COVID-19 infection and its consequences, such as absenteeism in health care settings.

The aim of our study was to investigate the frequency of sickness absence due to COVID-19 infection in one university hospital in Iran.

Materials and Methods

This cross-sectional study reviewed data on the sickness absenteeism of HCWs due to COVID-19 infection from one of the public referral hospitals of Tehran University of Medical Sciences (Imam Khomeini Hospital) during the coronavirus pandemic, from 26 February until 19 April 2020.

Occupational data, including job category, working unit, and sickness absenteeism characteristics (sick leave days, exposure type, and symptoms), were collected in this study. HCWs were excluded if they left their jobs for other causes rather than COVID-19 infection.

Hospital staff with typical or atypical symptoms related to COVID-19 was examined by the infection specialist of the hospital, and the medical certificate was

Corresponding Author: N. Izadi
Center for Research on Occupational Disease, Tehran University of Medical Sciences, Tehran, Iran
Tel: +98 21 66405588, Fax: +98 21 66405588, E-mail address: nazanin.izadi@gmail.com

presented and registered in the nursing management department. In this study, data were gathered from the records of the nursing management department and analyzed using SPSS software version 20. Because of the non-normality of distributed data, the median (interquartile range) had been reported. A comparison was made by Kruskal-Wallis and Mann-Whitney U-test. This study had been approved by the ethics committee of the hospital.

Results

The total number of hospital staff under the supervision of the nursing department of the Imam Khomeini hospital was 1700. 304 (17.8%) with a mean (SD) age of 35 (8.2) years had sick leave due to coronavirus or corona-like symptoms. Female nurses used more sick leave. Among different job titles, nurses and then nursing aid workers constituted the categories with more frequency of sick leave. The more median days of sick leave were observed among supervisors and midwives. There was one office worker who had a sick leave of 7 days. General internal medicine ward, ICU, the wards with immune-deficient patients (hematology, transplantation, and cancer), and emergency wards were the ones with the most frequency of sick leave due to COVID-19 infection; 33.1, 19.2, 14.6, and 12.9 percent, respectively. However, more median days of sick leave were observed in the nursing management department and CCU. In the endoscopy unit, there was a pregnant woman who had a long sick leave day (23 days) (Table 1).

Nurses with underlying diseases, including asthma, hypertension, and pregnancy, had the most median sick day leaves compared to the other differentiating characteristics (15 versus three days).

A total of 237 (78%) of nurses reported typical symptoms of fever, dry cough, and shortness of breathing, 49 (16.1%) had atypical symptoms including fatigue, myalgia, gastrointestinal complaints, and 18(5.9%) of participants didn't have any symptom. Direct exposure to corona-positive patients was 85(28%), and 97 (31.9%) had no history of direct patient exposure. The surprising point was that most portions of sick leaves (40.1%) did not know the source of their exposure to COVID-19. Furthermore, when we looked at the staff with typical symptoms, the source of exposure was not known for most of them, and 30% reported direct exposure to corona-positive patients. Direct exposure was also reported to be higher in the group with atypical symptoms; however, the non-specific symptoms group had the lowest direct exposure to patients with COVID-19 (Figure1).

Table 1. Characteristics of nurses with sick leave

Variables		Frequency (%)	Median (IQR)	*P*
Sex	**Male**	69(22.8)	3(2-5)	0.38
	Female	233(72.2)	3(2-5)	
Job category	**Supervisor**	8(2.6)	6.5(3.25-14)	0.05
	Nurse	221(72.7)	3(2-5.5)	
	Midwife	10(3.3)	2(1.5-7)	
	Technician	14(4.6)	3(2-3)	
	Office workers	1(0.3)	7(7-7)	
	Nursing aid	50(16.4)	3(2-4.25)	
Working unit	**CCU**	14(4.6)	5.5(3-8.5)	0.000
	ICU	58(19.2)	3(2-4)	
	NICU	10(3.03)	2.5(1-4.5)	
	Endoscopy	4(1.03)	2.5(2-23.25)	
	Others	2(0.7)	2(2-2)	
	Operating room	12(4)	3(2-5)	
	Immune deficient ward	44(14.6)	3(3-7)	
	General	100(33.1)	3(2-5.75)	
	Emergency	39(12.9)	3(2-4)	
	Outpatient clinic	11(3.6)	3(2-3)	
	Nursingmanagement department	8(2.6)	5.5(3.25-12.75)	
Underlying disease	**Yes**	15(4.9)	15(2-30)	< 0.0001
	No	289(95.1)	3(2-5)	

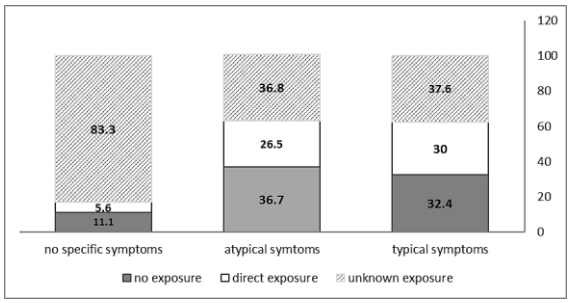

Figure 1. COVID-19 symptoms in terms of exposure among nurses

Discussion

Our study revealed that female health care workers had more sick leave in comparison with male co-workers. The frequency of female health care workers was higher than males in our study. Furthermore, studies exist that indicate the gender difference in terms of sick leave (2). Being more ill and with a lower probability higher extent of work, demand is some speculations regarding female/male predominance in sick leave. Another well-done cofactor-adjusted study also showed this gender difference for sick leave and indicated that gender differences in health and stressors might be some of the associated factors, and there is a need for further investigations in this regard (3). Studies also exist that contradict this gender difference in sick leave and have reported no gender gap for sick leave in health care workers (4).

In terms of working wards, the frequency of going on sick leave was higher in general wards, ICU, the wards with immune-deficient patients, and emergency wards, respectively. However, the median days of sick leave were higher in CCU.

Approximately one-third of the participants with typical and atypical symptoms mentioned known exposure to COVID 19 patients. It may be assumed that other sources of exposure in the community could be a leading cause of the disease in this group.

The rate of sick leave was 40 % of critical care units such as ICU and CCU versus emergency department (24%), this difference may be due to the high-risk aerosolizing procedures like suction, intubation, and CPR performed in critical care units. Otherwise, due to high turnover, the admission time in the emergency department is short, which in turn could lead to a lower rate of exposure.

It has shown that licensed practical nurses, nursing aides, and facility support workers have higher sick leave rates (5). In the Gorman *et al.*, study, registered nurses, care aides, admin/human resources, finance/Management/Clerk, Health sciences professionals had more sick days (5). Consistent with our study that nursing managerial staff had more median sick days in comparison with the other wards. In the mentioned study, maintenance workers and laboratory and imaging workers had the least sick days (5). This may be consistent with the theory that sickness presenteeism is more in these job categories.

Supervising and management departments had the most median days of sick leave; it could be expected due to that they are not involved in patient handling tasks. Additionally, lower sick leave days in high-risk wards may lead to sickness presenteeism, as mentioned above. Thus, the median days of sick leave will be higher in the working staff of low-risk wards. Sick presenteeism is the phenomenon defined as going to work despite feeling sick (6). This emerging global challenge of the health care system during a pandemic like COVID19 should be taken seriously into account by the authorities. These phenomena have negative effects on the health of staff and the productivity of the health care system to battle this pandemic (6).

In some wards, we can see that despite their high exposure and more chance of getting sick, median days of sick leave due to coronavirus was not as high as we thought. This may lead to a higher risk of making mistakes during work, productivity loss, social dysfunction, and inattention to making errors (reduced morale), and more job insecurity and disturbed employer-employee relationships (7-9).

Moreover, sickness presenteeism can be related to educational status, financial problems, sickness absenteeism, insufficient staff, absence or lack of occupational health services, and employers' pressure of coming to work despite being sick (10). This leads to lower sick leave days among the population with these risk factors. It is also reported that psychosocial risk factors are associated with sick leave (11). This association leads to more sick presenteeism of the group with lower financial support and insecure jobs as the ones with more secure jobs (managerial ones) in our study had more median days of sick leave.

The job categories with lower median days of sick leave in our study may have the aforementioned risk factors leading to their lower sick leave days compared to the administrative jobs such as supervisors and office workers, warranting further investigation. Better strategies for volunteer staff during a pandemic and considering welfare services and financial support may increase the median days of sick leave in these health care staff for the promotion of their health and productivity (10). Social support, decision latitude also

have been introduced among the associated factors of sick leave and maybe the other cofactors which require further evaluation in the population of our study (12).

The present study revealed a more median of sick days among the staff with the underlying disease who had sick leave. A study has shown that underlying diseases such as musculoskeletal disorders and cardiovascular disorders have more chances to have sick leave and even long-term sick leave. Van Den Berg showed the ones with several morbidities and psychosocial work-related factors to have more sick leave and indicated that physical work-related factors and lifestyle factors have less relationship with sick leave (11). Furthermore, it is shown that health care providers especially those working in COVID-19 related wards suffer from higher burn out (13).

In a systematic review, work overload, social exclusion, negative changes in the workplace, self-reported health problems, low self-reported physical capacity, excessive physical exertion, low social support at work, job strain, hospital mergers, physical fatigue, mental and physical health-related functioning, job control, job support, low back pain, high fear-avoidance beliefs, female gender have been associated with sick leave days in a systematic review (14). Again, the general concept is consistent with our study; the wards with higher physical and mental workloads had more frequency of sick leave days. More days of sick leave among supervisors and managing nursing may show more sickness presenteeism in the other wards that are not reported by the suffered staff as the related risk factors for sickness presenteeism are job demands and exhaustion (14). This novel entity, sickness presenteeism, needs more investigation among the health care workers during the corona crisis. However, this is the subject of more bias because the health care workers may not report their symptoms because of financial problems or the fear of losing their jobs.

Acknowledgments

We would like to thank the all-health care workers of Imam Khomeini Hospital Complex (IKHC) for their sacrifices during ongoing pandemic of COVID-19.

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