Surveillance and Isolation Based Strategies to Prevent COVID-19 in a Dialysis Center of Tehran, a Customized Approach

The possibility of rapid spread of SARS-Cov-2 infection (COVID-19) via hemodialysis facilities should not be ignored. Unavoidable clustering of hemodialysis patients and close contact with nursing staff would increase the risk of viral transmission. In addition, these patients are more likely to be old and fragile and have multiple comorbidities.

Therefore, patients on maintenance hemodialysis are more susceptible to COVID-19 and the infection might be more severe and complicated.[1]

Imam Khomeini Hospital Complex (IKHC) is a governmental hospital affiliated to Tehran University of Medical Sciences. Soon after epidemic of COVID-19, IKHC was selected as one of the

IKHC Guideline for COVID-19 Prevention in Patients and Healthcare Workers of Dialysis Center

General Recommendations for Patients	
Lockdown Principles	• Abstain from unnecessary personal contacts or public events • Stay at home while off dialysis • Transport by individual vehicle to and from dialysis center • For patients with acceptable residual renal function, two rather than three times per week hemodialysis temporarily • At least 6 feet distance between the patients in the dialysis hall • Prohibiting the presence of accompanying personnel in the dialysis ward
Screening	• Body temperature measurement before entrance to waiting room • Asking about respiratory symptoms upon arrival

Hygienic Measures	• Providing alcohol dispenser and surgical masks at the waiting room
	• Instructing the patients about:
	  ○ appropriate hand hygiene
	  ○ use of face mask
	  ○ disposal of contaminated tissues and materials.
	• Discourage eating and drinking at the ward

Suspicious Cases of COVID-19	• Early referral of suspicious and known cases to the wards allocated for COVID-19 patients (Corona Wards) • Complete isolation of Corona Wards from general wards of hospital and the dialysis center • Prohibiting the entrance of suspicious or known cases of COVID-19 to dialysis ward • In cases of acute or chronic kidney diseases who requires renal replacement therapy, performing hemodialysis bedside the patient in the Corona Ward • Assigning another dialysis center for hemodialysis patients who discharged from Corona Ward

Healthcare Workers	• Providing online educational materials and pamphlets about:
	  ○ governmental guidelines regarding COVID-19
	  ○ hand hygiene
	  ○ appropriate personal protection
	• Requesting the staff members to inform the head of ward immediately, if they developed suggestive symptoms of COVID-19
	• Standard protection protocol for:
	  ○ healthcare workers of the dialysis center:
	    ▪ surgical facemask
	    ▪ non-sterile rubber glove
	    ▪ water-repellent gown with long sleeves
	  ○ Nurses who run hemodialysis in Corona Ward:
	    ▪ N95 mask
	    ▪ face shield visor
	    ▪ waterproof disposable gown
	• Wearing new gloves for each patient

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three referral hospitals in Tehran for COVID-19 admission. Thus, IKHC played a dual role during epidemic of COVID-19; it should manage referral cases of COVID-19 while providing routine medical services for other patients.

Maintaining the activity of dialysis center of IKHC during the outbreak of COVID-19 necessitates adopting appropriate preventive strategies to protect medical staff and patients.[2] Previous experiences from MERS-CoV revealed that strict patient surveillance and proper isolation practice would prevent secondary viral transmission.[3]

To provide a comprehensive guideline for COVID-19 prevention in dialysis center of IKHC, we reviewed interim additional guidance released by Center for Disease Control and Prevention and other guidelines and recommendations.[4,5] Considering our limitations and resources, we customized an appropriate guideline for COVID-19 prevention in healthcare workers and dialysis patients. Our recommendations were oriented in three main categories: general recommendations for hemodialysis patients, instructions for suspicious and known cases of COVID-19 and recommendations to protect healthcare workers. Table 1 represents our guideline briefly.

In conclusion, preventive managements would play a key role in breaking the chain of viral transmission and containment of COVID-19 pandemic in hemodialysis centers. Our strategy for COVID-19 prevention in the dialysis center of IKHC was mainly based on surveillance and isolation of otherwise healthy hemodialysis patients from suspicious cases of COVID-19. By adopting such strategies, we encountered very few cases of COVID-19 in healthcare workers and hemodialysis patients of our center. So, it seems that strategies based on surveillance and isolation would be very effective in prevention of COVID-19, as it was shown in similar setting of MERS-CoV outbreak previously.[3]

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