

Monitoring Dialysis Water Treatment System for assessment Risk of Transmission Nosocomial Infection

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Abstract

Introduction and Objectives: A dialysis patient who is treated 3 times a week with approximately 150 liters of dialysis fluid. The dialysis fluids consist of up to 99% of reverse osmosis water in addition 1% acids, salts and bicarbonate. Improper operation of water treatment system for hemodialysis, patients at risk with microbial contamination and chemical toxicity. In this research, determining the microbiological quality of water and dialysis fluid Qom-Kamkar Hospital As the main center hemodialysis is performed.

Materials and Methods: This Cross-functional study was performed during 6 month. Sampling and testing was performed according to the AAMI guidelines. Microbiological quality based on the amount of bacteria CFU/ml and endotoxin EU/ml was reported according to AAMI standards. Data analysis Descriptive statistics of mean and standard deviation, minimum and maximum were performed.

Results: 35.41% of the water distribution network is higher dialysate contamination Based on AAMI standards 37.5% of the samples with levels higher than JSMT are Ph Eur standards. In

all samples of raw water to the water treatment system for dialysis was endotoxin. The rate of industrial RO or primary RO 83.3 percent and then fell to 50% secondary RO (medical RO). A total of 87.5% were of the higher EU AAMI, Ph Eur and JSDT standards.

Conclusion: Unacceptable Microbiological quality of water and dialysate on bacteria and endotoxin standards AAMI, Ph Eur and JSDT was observed in some samples. Staff training and monitoring of microbiological quality control parameters on a regular basis AAMI standard and documented Performing disinfection water treatment system with scientific methods and infection control committee responsible dialysis unit can dialysis water treatment system performance, and help to create a safe environment for patients lead.

Keywords: AAMI, Hemodialysis, Water Treatment, Endotoxin, Hospital Infection.