

TITLE: Monitoring of water quality in bedside dialysis services in intensive care units in the city of Rio de Janeiro

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ABSTRACT

The quality of the water used in the bedside dialysis (BDL) is fundamental to avoid risks to the health of the patient. The evaluation of the critical points in the BDL is essential in the risk characterization of the process and the decision making in the sanitary surveillance. This study evaluated the quality of water used in the LBD of 36 intensive care hospital units in the city of Rio de Janeiro. From the collection of 260 water samples from network entry points (NET), post osmosis (PPO) and dialysis solution (SD), 216 samples were analyzed microbiologically with bacterial count and endotoxin determination in addition to research of pathogens according to the methods described in the Brazilian Pharmacopoeia 5th edition and 44 samples collected for the quantification of aluminum. Bacterial contamination was above the recommended limit values in 30% (n = 32) of the samples, 42% of which were from SD, 31% from PPO and 17% from the NET, and with isolates of *Pseudomonas aeruginosa*, *Escherichia coli*, *Stenotrophomonas maltophilia*, *Burkholderia cepacia* and *Ralstonia pickettii* at 3 points. Endotoxin concentrations above 0.25 EU / mL occurred in 61% of the samples (n = 22) analyzed in PPO. Among the unsatisfactory samples regarding aluminum content, 67% (n = 8) corresponded to PPO samples and 33% (n = 4) to the NET samples. There is no specific legislation for water used in DBL, therefore, the limits of the DRC of ANVISA 11/2014 regulating conventional hemodialysis services were used. The results found highlight the importance of the monitoring of DBL services regarding water quality, since the occurrence of bacterial contamination may aggravate the situation of these patients who are already immunocompromised, besides subsidizing control actions that contribute to the improvement of these health services.

Keywords: 1. Microbiology; 2. Mobile dialysis; 3. Dialysis solution; 4. Treated water for hemodialysis

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