Enhancing the peritoneal dialysis patient experience: Usability and satisfaction with the new Vivatum Alba CAPD System

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Abstract

Background: Peritoneal dialysis (PD) can be performed manually through Continuous-Ambulatory-Peritoneal-Dialysis (CAPD) or using Automated-Peritoneal-Dialysis (APD). However, access to APD is limited, particularly in low-resource settings. For over 40 years, CAPD has depended on manual exchanges. This study aimed to evaluate the usability and patient experience of performing CAPD using the innovative Vivatum-Alba-CAPD-System.

Methods: We conducted a two-phase, multi-center study using qualitative and quantitative methods. In the first phase, a video introducing the Vivatum-Alba-CAPD-System; measured their vital signs, comparing standard methods with those provided by the Vivatum-Alba-CAPD-System. Participants completed an iPOS Renal questionnaire to gauge usability. In the second phase, patients practiced using the Vivatum-Alba-CAPD-System on an abdominal simulator, with the nurse investigator observing. Finally, patients performed a live PD exchange with the device and completed a follow-up questionnaire to assess usability and satisfaction.

Results: A total of [42] participants were enrolled, with [31] completing all study phases. The mean age was [51.3] years, and [53%] were male. Participants had been on CAPD for an average of [31] months SD [20.5]. [65%] isiXhosa or isiZulu speakers, [16%] Afrikaans, and [19%] native English speakers. During the first visit, the majority of hypertensive participants exhibited symptoms related to fluid overload [60%]. All participants, except one, expressed strong confidence in the system's ability to effectively manage their kidney failure. The system was met with high levels of satisfaction, with vital signs monitored by the new system showing consistency with those recorded by standard care protocols in the PD unit.

Conclusion: The Vivatum Alba-CAPD-System exceeded patient expectations, offering ease of use and strong interest in long-term adoption. Given its positive impact on patient experience and satisfaction, as well as its reliability in measuring ultrafiltration, we recommend making the device available to all CAPD patients.