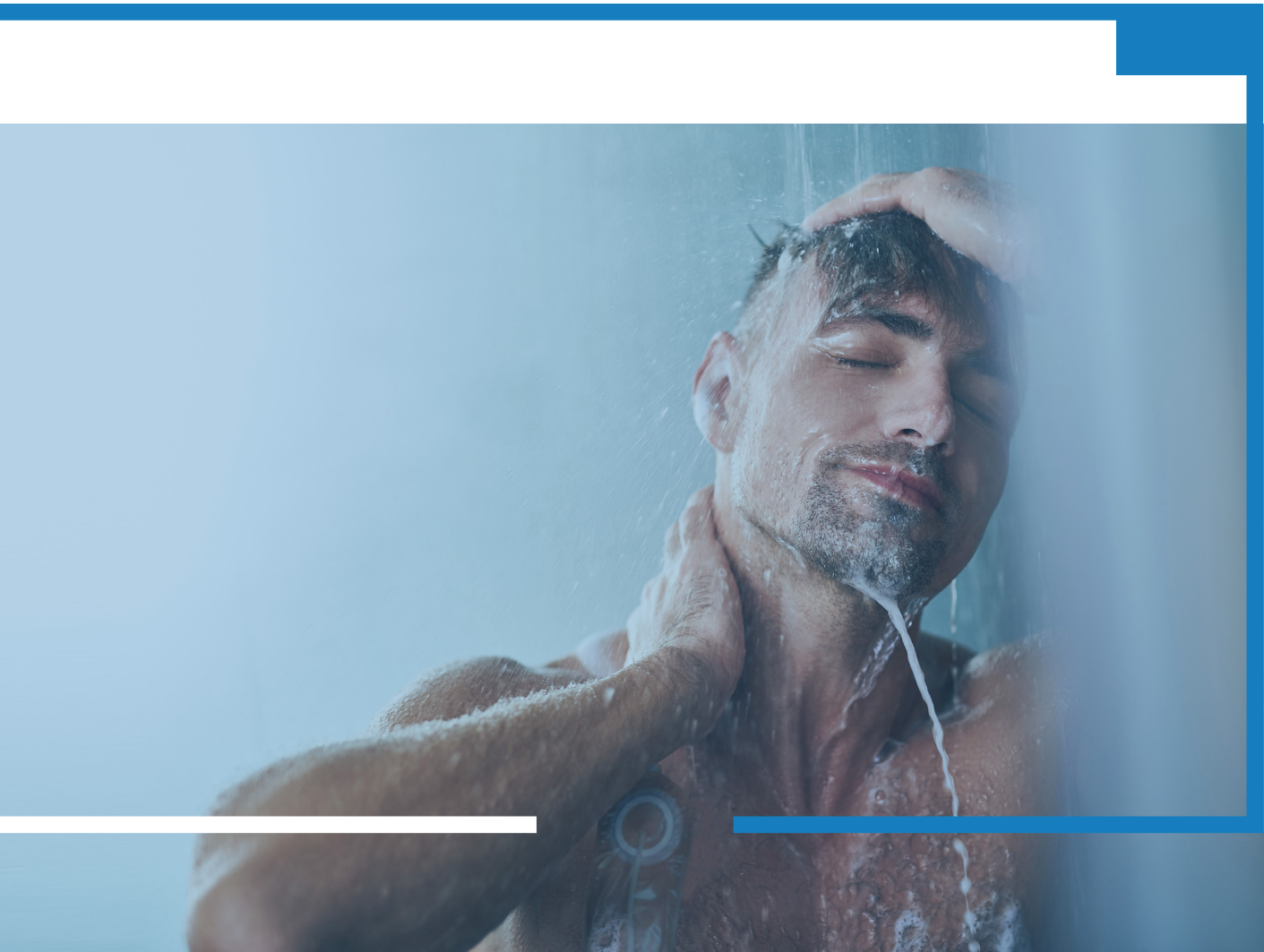


A NEW DIALYSIS CATHETER DRESSING (CATH DRY) SIGNIFICANTLY REDUCES CATHETER INFECTIONS

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ABSTRACT

Dialysis catheter infections are a significant cause of morbidity/mortality and adversely impacts quality of life. We evaluated the use of a novel, water resistant, and breathable dialysis catheter dressing, Cath Dry. Participants were recruited from a dialysis center in Mission Hills, CA. The Cath Dry dressing was applied to enrolled participants (n=45) via sterile technique by dialysis nurses. Participants were instructed to not remove the dressing and advised to shower without restriction. All participants completed a quality of life survey before and after the study. Data on infection or suspected infections were collected during the study period. Participants were enrolled on average for 3 months, for a collective study period of 139 catheter-months. The expected infection rate for our population was approximately 3 episodes (based on National Healthcare Safety Network (NHSN) 2014 data of 2.16 infections per 100 catheter-months). During the study period, we observed no catheter exit site or bloodstream infections. We compared the 2014 NHSN rate to our rate of 0 infections across 139 catheter-months using a one-sided exact test based on the binomial distribution. Our infection rate was significantly less than that reported by NHSN ($p = 0.0449$). Quality of life survey results showed 78% of patients felt their catheter was not clean or protected prior to the study whereas 100% of patients felt their catheters were clean and protected during the study. Prior to the study, 68% of participants felt their inability to shower adversely affected their quality of life. At the end of the study 100% of participants felt that Cath Dry improved their dialysis experience. Cath Dry, a water resistant and breathable dialysis catheter dressing significantly reduced catheter related infections in our participants when compared to actual NHSN infection rates of 2014. Use of the Cath Dry dressing contributed positively to the quality of life, dialysis experience and hygiene of our participants.

METHODS

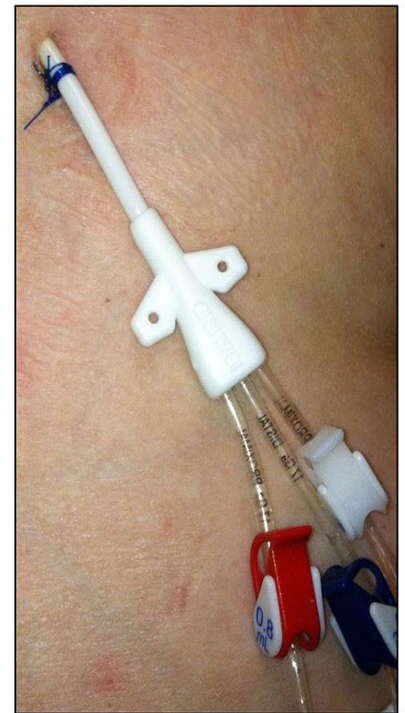
1. Participants were recruited from a hemodialysis center in Mission Hills, CA.
2. The Cath Dry dressing was applied to the exit site of each patient via sterile technique by trained nurses for 3 months.
3. Patients were instructed to keep the dressing on until their next dialysis session and were told to shower freely.
4. The dressing was changed by the dialysis nurse at each dialysis session.
5. Patients were asked to complete a quality of life survey at the start of the study and at the conclusion of the study.
6. Detailed data on all infections during the study period were collected.
7. A one-sided exact test based on the binomial distribution was used to compare the infection rate of our cohort to the 2014 NHSN rate.

RESULTS

1. Participants were enrolled for a collective study period of 139 catheter-months.
 - a. Based on the 2014 NHSN infection rate of 2.16 infections per 100 cathetermonths, the expected infection rate for our population and study period was 3 episodes.
2. No catheter-related infections observed during study period (See Figure 1).
 - a. Infection rate was significantly less than NHSN 2014 infection rate ($p=0.049$).
3. Pre- and Post- survey data identified a number of patient experience benefits.
 - a. Figure 2 compares patient experiences with catheters before and after using Cath Dry.
 - b. Prior to distributing Cath Dry, 97% of participants expressed interest in a solution that will allow for showering with less risk of infection. Although 89% expressed anxiety about catheter infections, 62% reported showering even when advised not to.
 - c. Following use of Cath Dry, 91% of participants expressed satisfaction with ability to shower and no participants reported instances of skin irritation with Cath Dry.



Gauze/tape dressing



Cath Dry dressing

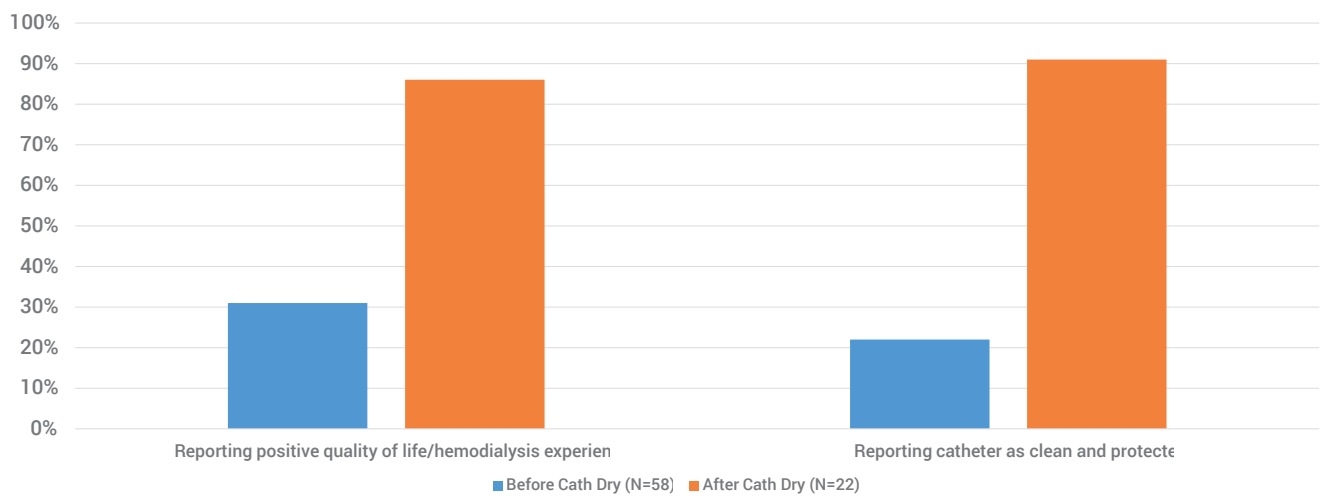
FIGURE 1

Hemodialysis catheter infection rates: Comparing study results to 2014 National Healthcare Safety Network (NHSN) data (per 100 catheter-months)



FIGURE 2

Participant experiences with catheters before and after using Cath Dry



CONCLUSIONS

1. Cath Dry significantly reduced infections in our participants when compared to the NHSN 2014 infection rates.
2. Use of Cath Dry contributed positively to the quality of life, dialysis experience and hygiene of our participants.