



From Discard to Design: Syringe Driver Bag with a Purpose

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Background

Syringe driver (SD) is a portable device for delivering subcutaneous infusions or medications, especially to palliative patients. It is typically placed in a small bag for patient convenience and safety. However, these bags are often reusable, and there is no standard practice for cleaning them, posing an infection control concern due to the risk of transmitting infections from one patient to another. In addition, mold formation were also seen due to inadequate drying of these bags.

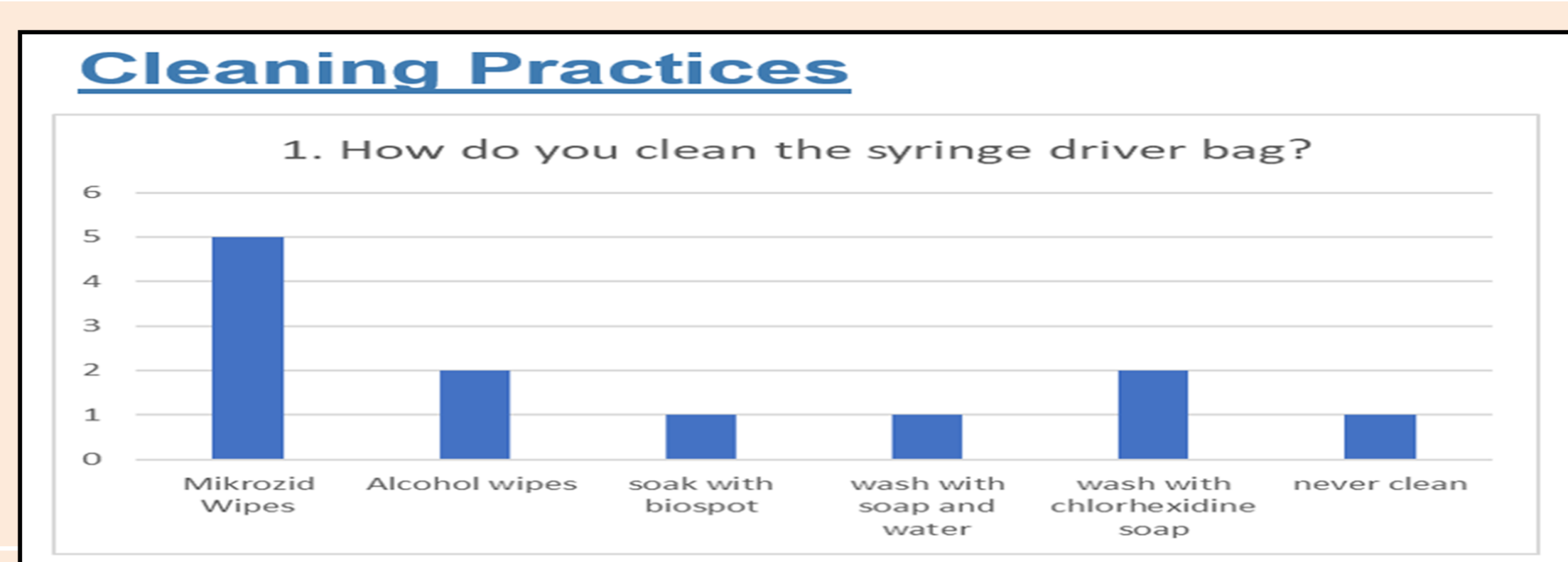


Figure 1 – Different Cleaning Practices of the Nurses



Figure 2 – Old Syringe Driver Bag (wash and hang to dry in utility room)

Aim

The aim is to introduce single-use syringe driver bags to eliminate sharing between patients and reduce the risk of infection transmission.

Methodology

A multidisciplinary team was formed to assess the current practices concerning the cleanliness of SD bags. The team comprised the Infection Control Nurse, Nurse from Ward 43, and representatives from Environmental Services, Linen Services. The team engaged relevant staff across multiple departments to ensure a comprehensive evaluation of the options as below:

Collaboration with **Procurement team** to assess the feasibility and cost implications of purchasing additional bags from vendors. However, this option proved to be expensive, with each bag costing approximately \$70.

The team sought to harness the creativity and support of **volunteers** for knitting bags from **Corporate Communication Department**. These option while appealing due to trendy and eye-catching designs of the knitted bags, was deemed unreliable as it overly depended on volunteer contributions, which could not be guaranteed regularly.

The team consulted the **Linen Services**, to consider utilizing the standard hospital laundry services for cleaning the bags. This option was also found to be costly, at \$3 per bag, and impractical due to the insufficient number of bags available to maintain a continuous rotation during the laundry service's turnaround time.

Lastly, the team engaged **Yellow Ribbon Industries**, an external laundry company in upcycling condemned linen into single-use bags. Consulting the hospital LS to understand the practicalities and costs associated with creating the bags as well as assessing the existing stock levels to ensure a continuous supply.

This idea was inspired by another institution's practice of repurposing damaged linen with embroidery.

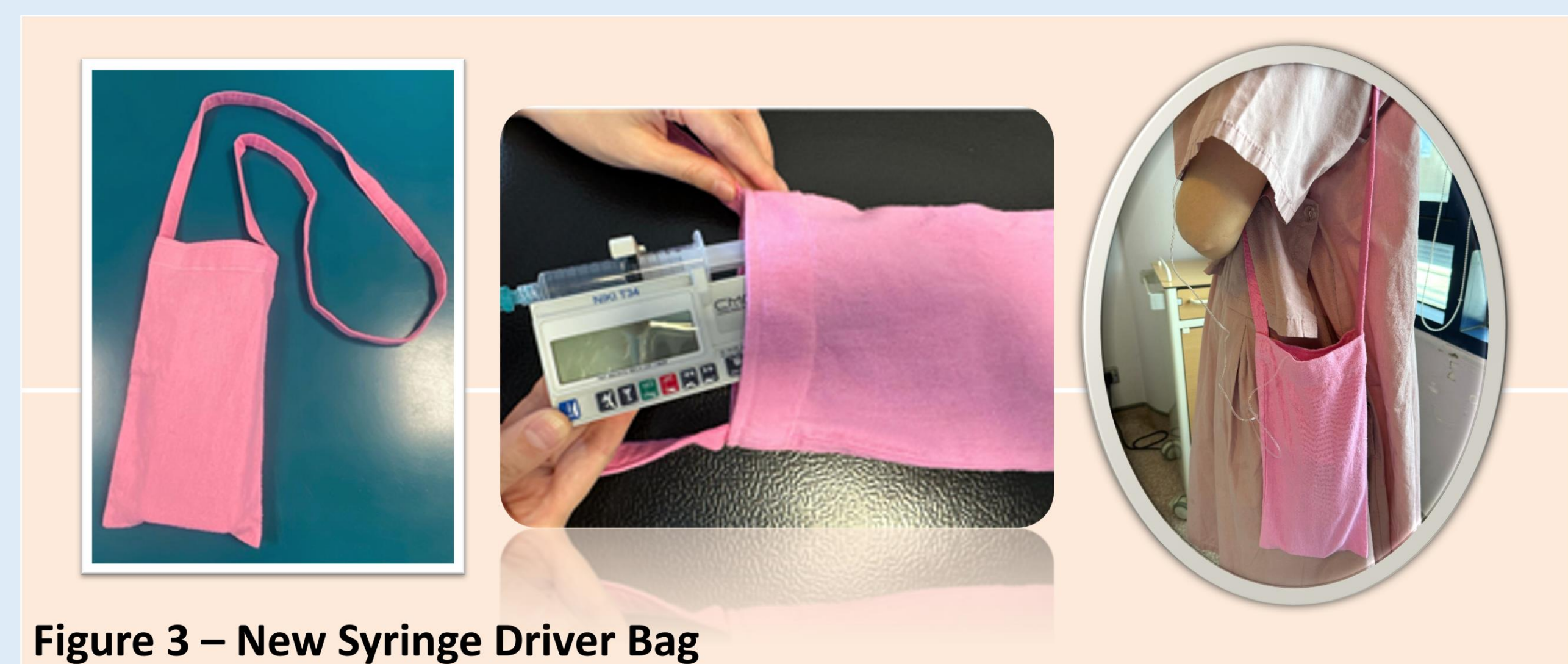


Figure 3 – New Syringe Driver Bag

Results

Patient Satisfaction:

Anticipated results suggest that patients will be satisfied with the new single-use syringe driver bags due to their lightweight, soft texture, and personal use. This is supported by feedback indicating dissatisfaction with the previous bags.

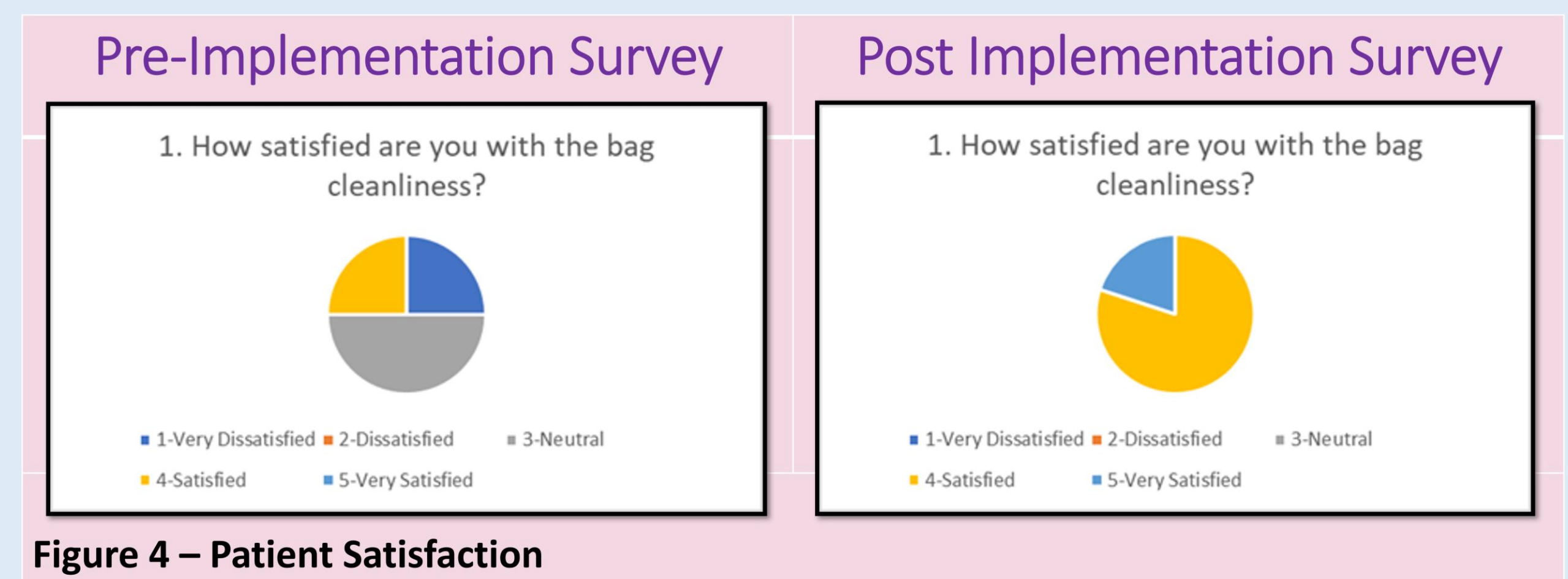


Figure 4 – Patient Satisfaction

Nurse Satisfaction:

The anticipated results indicate that nurses will be satisfied with the new single-use bags due to time savings, reduced infection transmission risk, and improved safety for high-risk patients. This is corroborated by the post-survey results showing 91% satisfaction among participating nurses.

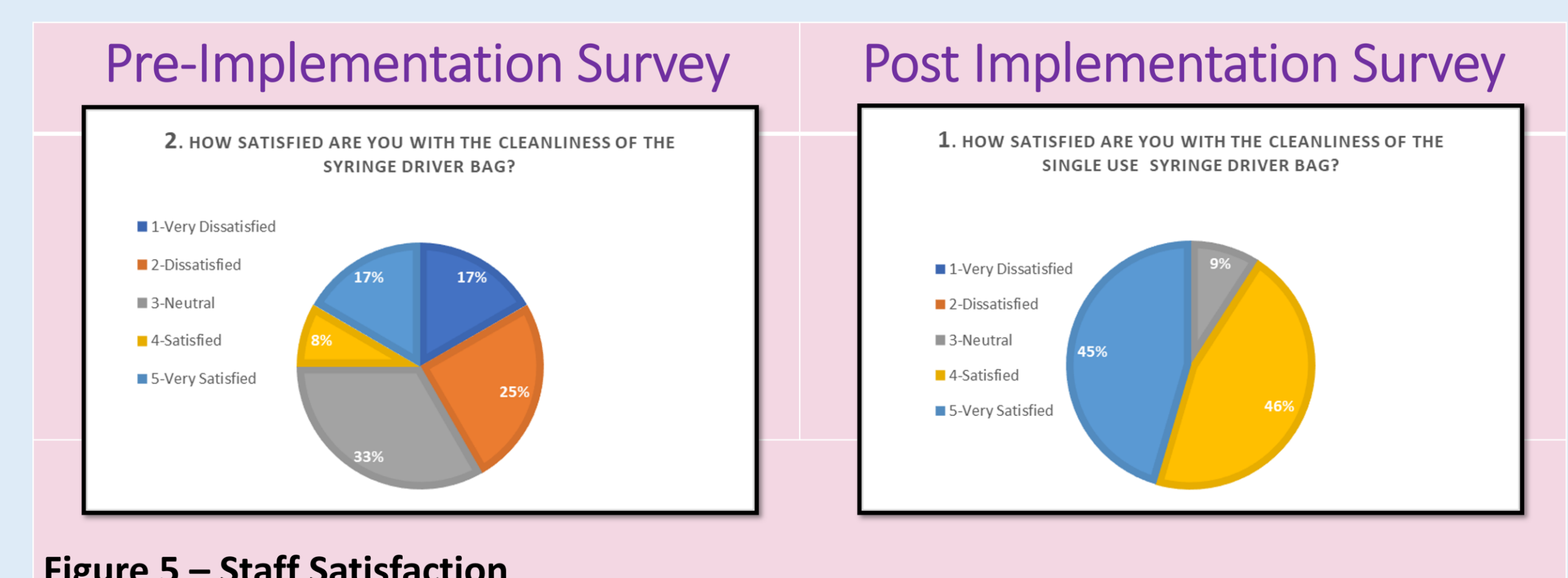


Figure 5 – Staff Satisfaction

Environmental Impact:

The anticipated environmental impact includes waste reduction through upcycling condemned linens, contributing to sustainability efforts.

Furthermore, the success of this initiative could encourage the expansion of upcycling projects within the healthcare setting, potentially including a wider variety of upcycled products, thereby further reducing waste and supporting environmental sustainability in healthcare.

Conclusion

This initiative significantly contributes to the hospital's commitment to achieving TARGET ZERO HARM by minimizing healthcare-associated infections (HAIs), supporting recycling efforts to reduce environmental footprints, and enhancing operational efficiency in the hospital.

Acknowledgment

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