

INTRODUCTION

Background

Dysphagia is the inability to move food or liquid from the mouth to the stomach safely and efficiently. It is one of the reasons for prolonged hospitalization in neonates, especially in preterm infants.¹

In KK Women's and Children's Hospital (KKH), inpatients who have feeding difficulties are referred to speech therapists (SLTs). One intervention provided by SLTs for children with dysphagia is adding thickener to slow the flow rate of fluids. Nurses then order thickener, prepare the thickened fluids, and feed the patients.

The Problem

Patients who require thickened fluids may not get the correct fluid consistency that SLTs recommend.

METHODOLOGY

Pre-pilot data was gathered to identify the percentage of inpatients who did not get the correct fluid consistency recommended by SLTs.

The workflow for ordering and preparing thickened fluids was reviewed. The gaps that may have contributed to the provision of incorrect fluid consistencies to inpatients include:

1. A **lack of alerts** when nurses prepare fluids for patients. Nurses are either not aware that patients require thickened fluids, or are unsure of the exact amount of thickener to add.
2. A **lack of appropriate measuring equipment** when nurses prepare thickened fluids, resulting in inconsistent and incorrect preparation of thickened fluids. For example:
 - a. Using double-sided butterfly medicine spoons (5 ml versus 10 ml); and
 - b. Using a level versus heaped scoop of thickener.

The **Think Safe Drink Safe (TSDS)** project was developed to **standardize the workflow for preparing thickened fluids** to ensure that paediatric inpatients receive the correct fluid consistency.

The project involved:

1. Creation of a **TSDS label** (Refer to Figure 2) that SLTs stick on each can of thickener ordered for inpatients and update regarding the number of scoops of thickener to add to fluids.
2. Purchase and **provision of a single-sided TSDS scoop and scraper** to ensure that each scoop of thickener added is standardized.
3. Formalizing the workflow for ordering and preparing thickened fluids as a **Policy & Procedure** and sharing it during TSDS **roadshows** during nurses' ward roll calls.

RESULTS

Pre-pilot data showed that only **41%** of dysphagic inpatients received the correct consistency.

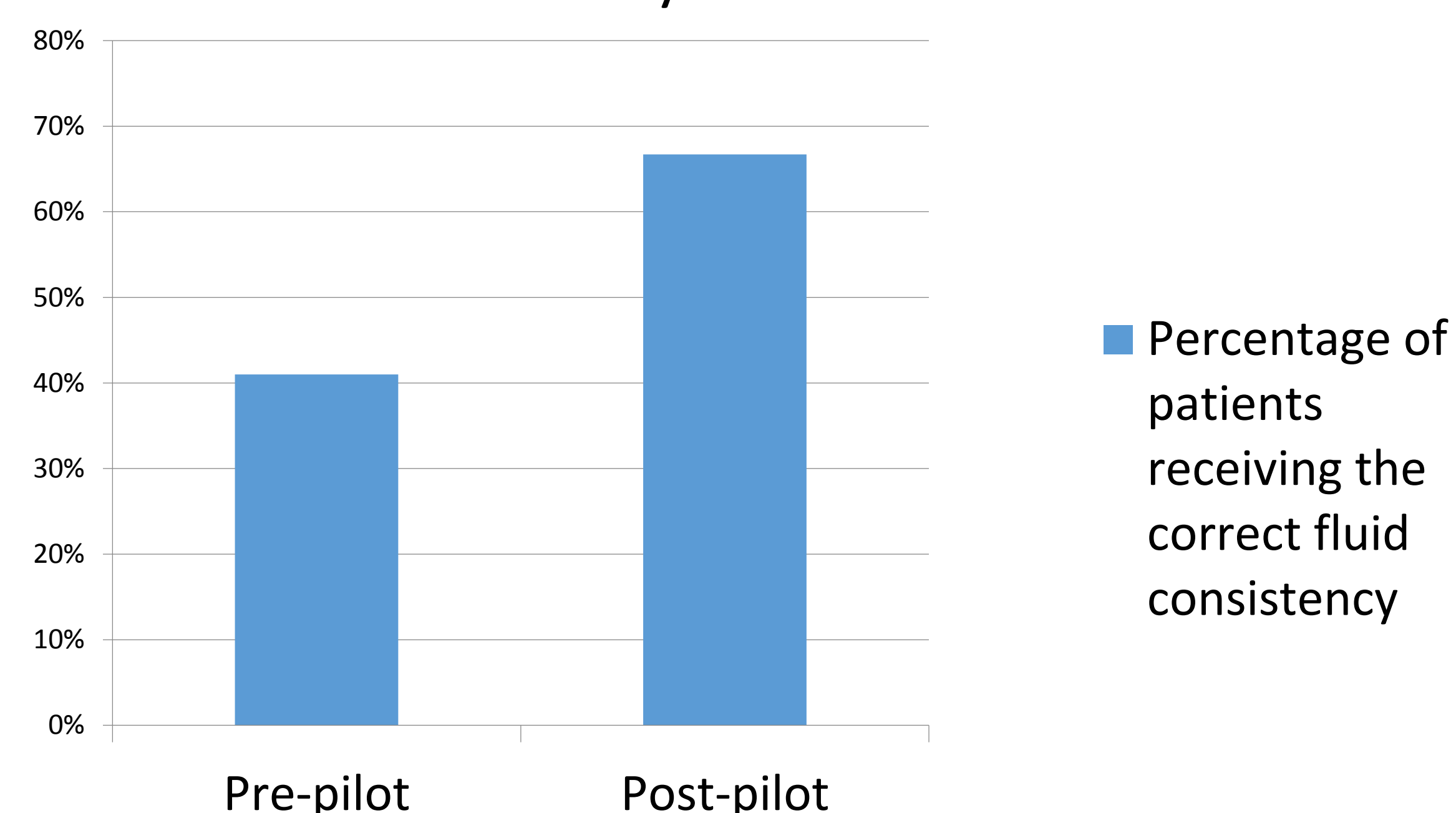


Figure 1: Percentage of inpatients receiving the correct fluid consistency, pre- and post-pilot.

Post-pilot data showed that **67%** of dysphagic inpatients received the correct fluid consistency recommended by SLTs (Refer to Figure 1).

Nurses reported that the following factors contributed to the increase in correct fluid consistency given to inpatients:

1. The **TSDS label** served as an alert and guide on the number of scoops of thickener to add.
2. The **single-sided TSDS scoop** helped to eliminate the potential confusion with a double-sided butterfly medicine spoon.
3. The **scraper** provided ensured a level scoop of thickener was added.
4. The updated **Policy & Procedure** for thickener workflow was shared during the TSDS **roadshows** during nurses' ward roll calls.

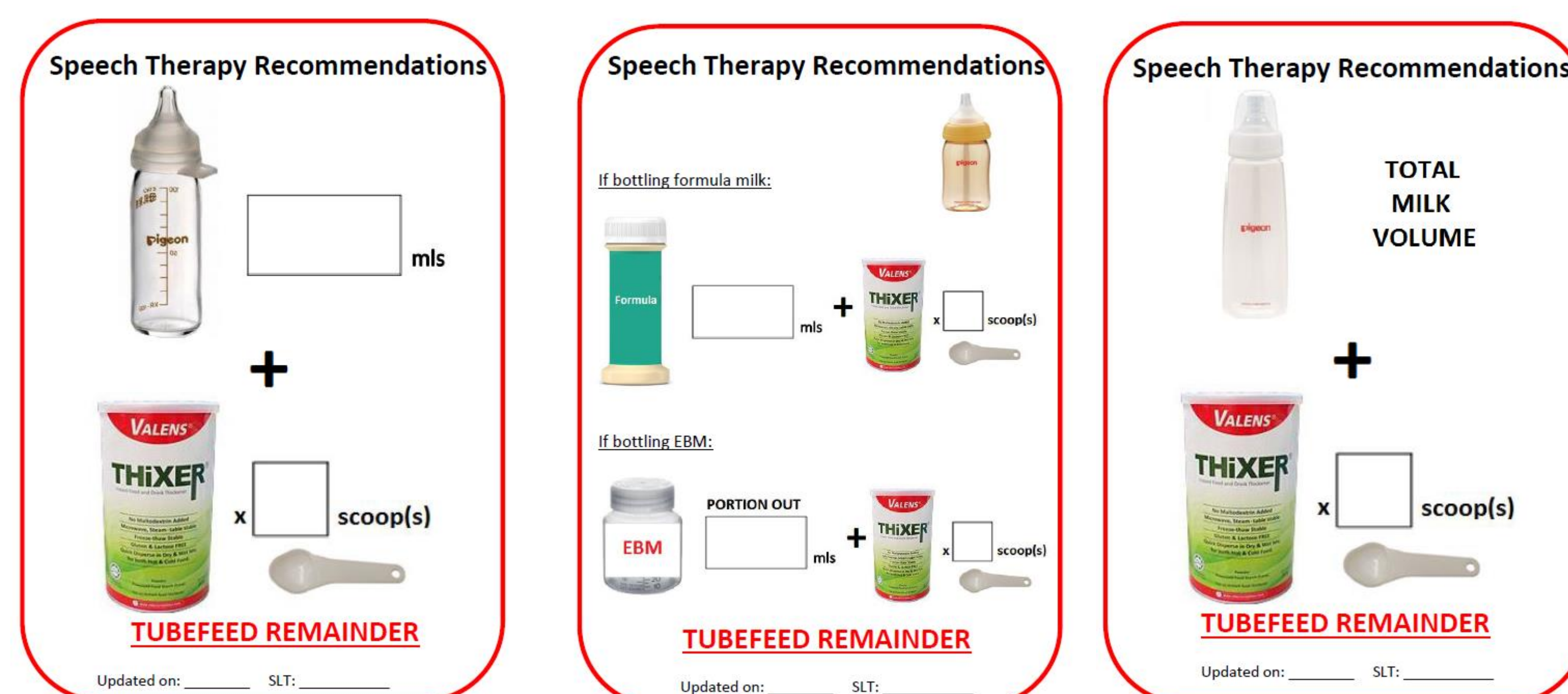


Figure 2: Examples of some TSDS labels.

CONCLUSION

The TSDS project has improved patient safety due to increased accuracy in preparing thickened fluids. More data points are needed to determine if the results are statistically significant.

References

1. Jadcherla, S.R., Stoner, E., Gupta, A., Bates, D.G., Fernandez, S., Di Lorenzo, C., & Linscheid, T. (2009). Evaluation and Management of Neonatal Dysphagia: Impact of Pharyngoesophageal Motility Studies and Multidisciplinary Feeding Strategy. *J Pediatr Gastroenterol Nutr*, 48(2), 186-192. doi: 10.1097/MPG.0b013e3181752ce7.