Dysphagia is defined as a disorder of the swallowing mechanism and can be caused by stroke, cancer, neuromuscular disorders, among other conditions. Patients with dysphagia can be at risk for aspiration pneumonia and other respiratory problems. One possible method to manage dysphagia is the use of thickened fluids prepared with a food thickener. Thickened fluids alter the variables of the swallow reflex, allowing more time for the complex series of events to occur to move the bolus to the stomach without compromising airway closure. Therefore, commercially available food thickeners have been widely used as additives in fluid foods for patients with dysphagia to elicit the optimal swallow response because of ease of preparation, convenience, reasonable cost, and the suspending ability of the thickened fluids. The size of Korean market for food thickeners can be expected about is about ₩1 billion. Most commercial food thickener products marketed in Korea are imported mainly from Japan. Among commercially available food thickeners, only a Visco-Up food thickener is the first domestic food thickener which has been developed by domestic technology.

Food thickeners generally have modified starch and gum as their base materials. Studies have shown that starch-based thickeners have an undesirable “starchy” flavor, are grainy in texture and cause lumping when mixed with fluid. Starch-based thickeners have been shown to become thinner over time as the thickener is broken down by amylase in saliva. In contrast, gum-based thickeners have been shown to be more stable and maintain their thickness due to their amylase-resistant properties, palatability and smooth texture when compared to starch-based thickeners. Therefore, recently, xanthan gum (XG)-based food thickeners are commonly used in diet modification for patients with dysphagia in Korea.

In general, the effective treatment of dysphagia requires that fluids must be consistently prepared with the correct viscosity. Therefore, it is necessary to provide a more accurate measurement of the viscosity of thickened fluids using sophisticated computer-controlled rheometers. Recently, many researchers reported that thickened fluids prepared with XG-based food thickeners exhibit typical rheological properties, depending on the thickener brand, type of medium for preparation, thickener concentration, temperature, and setting time before serving or consuming. Consequently, a detailed consideration of rheological properties of thickened fluids is needed for the management of dysphagia. Therefore, understanding the rheological properties of thickened fluids has important clinical implications, and in order for healthcare staff and dieticians to provide accurate and consistent education about thickening fluids, they need first to better understand the issues.
relating to rheological variability in thickening of fluids.

The information suggested in this presentation will provide both clinicians and patients with additional knowledge to prepare thickened fluids and soups with desirable and correct viscosity for use in the clinical management of dysphagia, and will also support the need for standardization in thickening fluids and label information for their clinical application.

References