regarding how to measure fluid intake of the subject, thus increasing the reliability of the measurement data.

In conclusion, Garon et al. (1997) completed a well-designed, valid randomized control trial with some limitations in the area of subject size, documentation of statistical methods, and reproducibility. The findings of this study can be considered moderately strong evidence.

Finestone et al. (2001)

The researchers conducted a cohort study design, which involves non-random subject selection and allocation into two or more groups and is useful for examining whether a person will develop a certain condition (Greenhalgh, 2006).

A sample of post-stroke patients with dysphagia was consecutively selected from a hospital over a 14-month period. The researchers non-randomly allocated the subjects to two different treatment groups. Patients in Group one (n=7) were initially receiving nourishment from non-oral means and then progressed to oral feeding. Patients in Group two (n=6) were safe to start oral intake straight away. The issues of small sample size, non-randomized group allocation, large age-range and unequal distribution of sex negatively affect the validity of the study's results.

Subjects involved in this preliminary study had a diagnosis of dysphagia made using a bedside swallow exam and no mention was made of the subjective nature of this test and how this may have affected the studies' reliability. Measurement of fluid intake for patients in Group one, initially on enteral/parenteral and intra-venous feeding were very thorough. Measurement of food and fluid intake for patients on oral feeding (Group one patients in the sub-acute stage and Group two patients in the acute stage) was conducted over a shorter period of time (2 days as opposed to 5) and no mention was made as to who was measuring the oral intake (ie. nursing staff or researchers). The insufficient procedural information would make this study difficult to reproduce.

In conclusion, Finestone et al. (2001) completed this preliminary study that contained many methodological limitations, but provided detailed documentation of patient's fluid intake. The findings of this study can be considered weak to moderate evidence.

Ramage et al. (1998)

These researchers completed an observational study where subjects were selected and observed, and results were then analyzed. The addition of a qualitative, focus group component allowed researchers to find out *why* certain results emerged.

Ramage et al. (1998) consecutively selected 29 patients with dysphagia from both acute and extended care units and grouped all patients together for the study. The sample contained a fairly equal distribution of males and females, however the individuals in the sample had a large range of ages (18-95 years of age). The researchers also conducted a qualitative portion of the study by way of focus group discussion with nursing staff, speech-language pathologists, and dieticians.

The quantitative component of the study included one group of non-randomly selected subjects with dysphagia. There was no discussion regarding how diagnosis of dysphagia was made. There was also no mention as to whether any education or training was provided for the patient feeders who recorded all food and fluid intake. Researchers noted that the Hawthorne effect was taken into account by conducting additional fluid intake observations with 10 subjects, who still met selection criteria, after two months. The qualitative component of this study included 3 initial focus group sessions held with nursing staff involved with feeding, as well as a secondary focus group session, following theme and data analysis, with speech-language pathologists, resource nurses, and dieticians. The focus group themes may have been more valid had the views of patients, caregivers, and family members been taken into account. No mention was made as to whether the researchers' biases and perspectives were taken into account.

In conclusion, Ramage et al. (1998) completed a flawed quantitative study with methodological limitations. However, this is the first appraised article that contained a qualitative investigation into the difficult issue, "*why* is thickened fluid intake so poor?" The findings of this study can be considered moderate evidence.

Patch et al. (2003)

A parallel group comparison was utilized for this study. This comparative design allows researchers to compare the effects of two different treatments (Greenhalgh, 2006).

Patch et al. (2003) consecutively selected 63 patients on modified fluid diets. The researchers randomly allocated patients into one of two treatment groups. Subjects in group one (n=36) received commercially prepared pre-thickened fluids, and subjects in group two (n=27) received domestic powder thickened beverages. The researchers were not able to observe all patients at the same time therefore 38 patients (26 from group one and 12 from group two) were observed at snack times and 25 patients (10 from group one and 15 from group two) were observed at mealtimes. The differences in observation times may have affected the reliability of the studies' results.

Patch et al. (2003) completed a study with