NSW Speech Pathology Evidence Based Practice Interest Group

Critically Appraised Paper (CAP)

CLINICAL BOTTOM LINE: This paper supports the theory that a Free Water protocol benefits patients in a rehabilitation setting in terms of quality of life and fluid intake and no adverse events reported. These patients have been educated in the use of strict oral hygiene and speech-language pathologist prescribed safe swallowing recommendations

Clinical Question [patient/problem, intervention, (comparison), outcome]:
In patients with dysphagia what are the benefits and complications of implementing the Free Water Protocol?

Citation: Carlaw, C., Finlayson, H., Beggs,K., Visser, T., Marcoux, C., Coney, D., & Steele, C.M. (2011). Outcomes of a pilot water protocol project in a rehabilitation setting. *Dysphagia,* (published on-line)

Design/Method: Participants were randomly assigned to one of two groups:

1. Immediate implementation group
2. Delayed implementation group where no water was provided for a 14-day control phase followed by a 14-day water protocol phase.

All participants were trained to follow an oral hygiene plan as well as individually designed, safe swallowing strategies, in days 1-3.

Participants:

- Eligible patients for this study included all English speaking patients aged 19 years and older, who were admitted consecutively to the Acquired Brain Injury, Neuromusculoskeletal, Adolescent and Young Adult or Spinal Cord Injury programs at the GF Strong Rehabilitation Centre, and who had thin liquid dysphagia on admission.
- This was thin liquid aspiration below the level of the cords, resulting in a thickened liquid or a NBM diet order. MBS used to determine this.
- Exclusion criteria included evidence of an absent pharyngeal swallow, active pneumonia, an acute or unstable medical condition, oral dental bacteria or infection that could not be controlled with oral care and excessive or uncomfortable coughing during or after water intake.
- 16 inpatients b/w 19 and 62 years (10 males and 6 females).
- Primary medical diagnosis: CVA, spinal cord injury and TBI.
- At enrolment time 7 participants had entereal feeding tubes but only 2 of these were NBM.
- 5 participants were on nectar thick fluids, 8 participants were on honey thick fluids and spoon-thick for the remaining patient. 6 patients were on puree and 8 patients on a mechanical soft diet.
- Participants were randomly assigned to one of 2 groups:
  1) Immediate implementation group (n=9)
  2) Delayed implementation group (n=7)

Experimental Group:

- Immediate implementation group.
- 9 participants.
- 14 days for each phase: observation and water protocol
- Observation phase: baseline fluid intake and QoL measures using the Swall-QoL were collected from day 1 to 3. Patients were trained in their oral care regimes and use of any compensatory swallowing strategies.
- Water protocol phase: Days 1-3 were used to train participants on the rules of the protocol. Water intake commenced on day 4 and continued until d/c.
- Rules for water protocol phase:
  - Oral care first thing in the morning, prior to oral intake and at bedtime. Mouth swabbed or rinse-and-spit to be performed prior to any oral intake.
  - Water from a cup permitted b/w meals after oral care.
  - Prescribed thickened fluids only during meals.
  - Medications to be taken with thickened fluids or puree only.
- Adverse events monitored.

Control Group:

- Delayed implementation group
- 7 participants
- Standard care (i.e. no oral water intake) was provided for an initial 14-day control phase followed by crossover to water-protocol phase.

Results:

- No adverse events were detected in either the control phase or the water protocol phase
- Post water-protocol phase fluid intake measures were substantially higher (10%) compared to fluid intake measures observe at the end of the control phase.
- Significant improvement in Swall-QoL measures from baseline to post-intervention for the water protocol phase and a worsening for the control phase.

Comments:

Strengths

- Use of randomisation to separate participants into experimental and control groups.
- Use of MBS
- Statistical analysis
- Use of a control group
- Use of QoL measure
- Use of multidisciplinary team to implement the protocol
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Weaknesses

- Small subject size
- Short study period
- Inclusion of patients with several different diagnoses
- Safe swallowing strategies not scrutinised in terms of their impact.
- Unable to blind participants.

Level of Evidence (NH&MRC): II

Appraised By:
Adult swallowing EBP Group

Date: Nov 2010