The Hydration Status of Adult Patients with Oropharyngeal Dysphagia and the Effect of Thickened Fluid Therapy on Fluid Intake and Hydration: Results of Two Parallel Systematic and Scoping Reviews

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Introduction

Dehydration is considered one of the **major complications** in adult patients with **Oropharyngeal Dysphagia** (OD). On one hand, its **prevalence in patients with OD is not well described**, and often its **research is scarce** and **receives little clinical attention**. On the other hand, although thickened fluids (TF) and **the use of thickening products** were demonstrated to be an **effective therapeutic strategy** to reduce the risk of airway invasion in patients with OD, its **role in hydration status in patients with dysphagia has been questioned**.

Objectives

To find the **prevalence of dehydration** in OD, the **relationship between OD severity & dehydration severity**, the **effect of TF therapy on hydration status** in OD patients, and any **potential negative or positive effect of TF** therapy on hydration status.

Study Design

Two Parallel Systematic (SR) and **Scoping Reviews** (ScR) reviews have been designed to answer two groups of PICO (Population, Intervention, Comparison, and Outcomes) questions

Review 1
(SR+ScR)

Hydration status of patients with OD

- a.1. What is the prevalence of dehydration in adult patients with OD?
- a.2. Is dehydration a complication of OD in adult patients with OD?
- a.3. Is there a relationship between OD severity and dehydration severity?

Review 2
(SR + ScR)

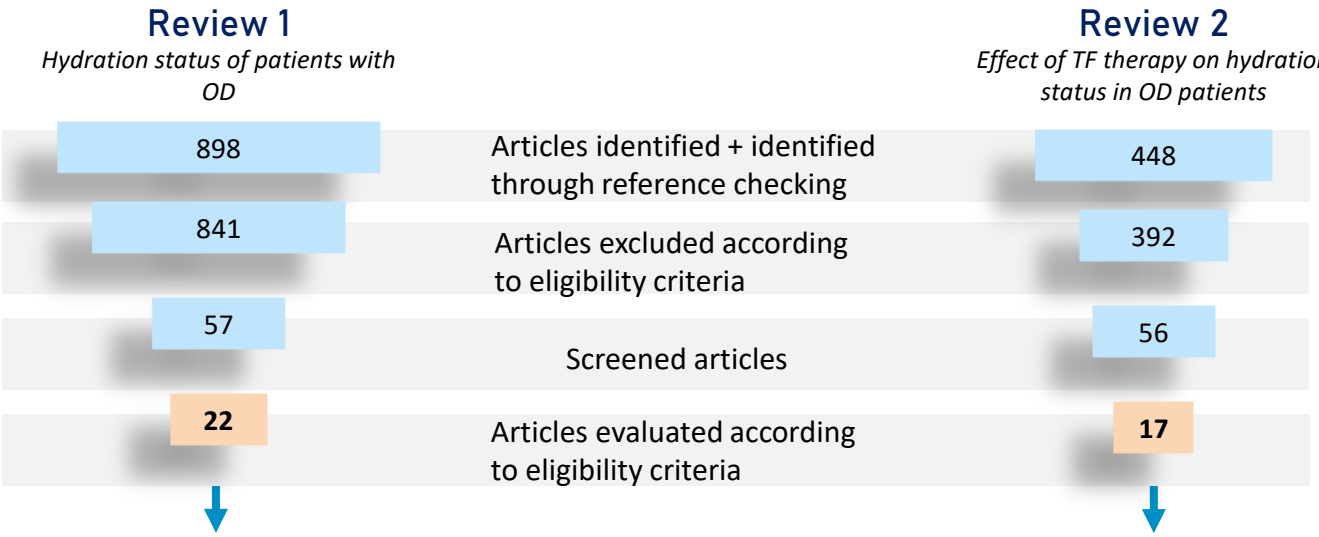
Effect of TF therapy on hydration status in OD patients

- b.1. What is the effect of TF therapy on the fluid intake and hydration status of patients with OD?
- b.2. Does the effect of TF therapy depend on the severity of OD or the type of TP used?
- b.3. In patients with OD, does treatment with TF improve or aggravate dehydration

The protocols of both reviews have been previously registered [PROSPERO under codes: CRD42021272030 (R1) and CRD42021242098 (R2)].

The **methodological quality** and **strength of the evidence** have been evaluated by the Joanna Briggs Institute (JBI) and Grading of Recommendations Assessment, Development and Evaluation methodology (GRADE).

Results:



- Dehydration in OD assessed by objective BIA or biochemical methods ranged from **19** to **100%**
- Most studies reported **low consumption** of TF in patients with OD

- **2 high-quality evidence studies** (JBI:>90.9%) including a total sample of **724 patients** showed a **positive therapeutic effect** of thickened fluids on hydration status in patients with OD (*Table 1*)

	PICO QUESTIONS			
Methodological quality of the assessment (%)	Number of participants studied	Effect of Thickened Fluid therapy on fluid intake and hydration status	Thickened Fluid therapy depended on OD severity or the type of Thickening product used	Thickened Fluid improved or aggravated dehydration
High quality/ lower risk of bias				
90.90	712	POSITIVE EFFECT	NOT ANSWERED	POSITIVE EFFECT
96.15	22	POSITIVE EFFECT	NOT ANSWERED	POSITIVE EFFECT
88.45	115	NEUTRAL	NOT ANSWERED	NEUTRAL
80.77	14	NEUTRAL	NOT ANSWERED	NEUTRAL
80.77	24	NEUTRAL	NOT ANSWERED	NEUTRAL
60.00	64	NEGATIVE EFFECT	NOT ANSWERED	NEGATIVE EFFECT
65.00	20	NEGATIVE EFFECT	NOT ANSWERED	NEGATIVE EFFECT
Low or Insufficient quality				

Table1: Quality of each study according to the JBI checklist, with the number of participants assessed and how they respond to the PICO questions for SR2.

Conclusions :

- ✓ Dehydration is a **highly prevalent complication** in patients with OD
- ✓ **High-quality studies** involving a **large number of patients** have shown a **positive therapeutic effect of Thickened Fluid therapy** on the **hydration status** of patients with OD.
- ✓ **Strict monitoring of fluid volume intake** is **essential to improve the hydration status** of patients with OD due to the low consumption of TF.

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