



PRECISION DENTAL MEDICINE

Children's Oral Mucositis – perspectives from the parents and the literature

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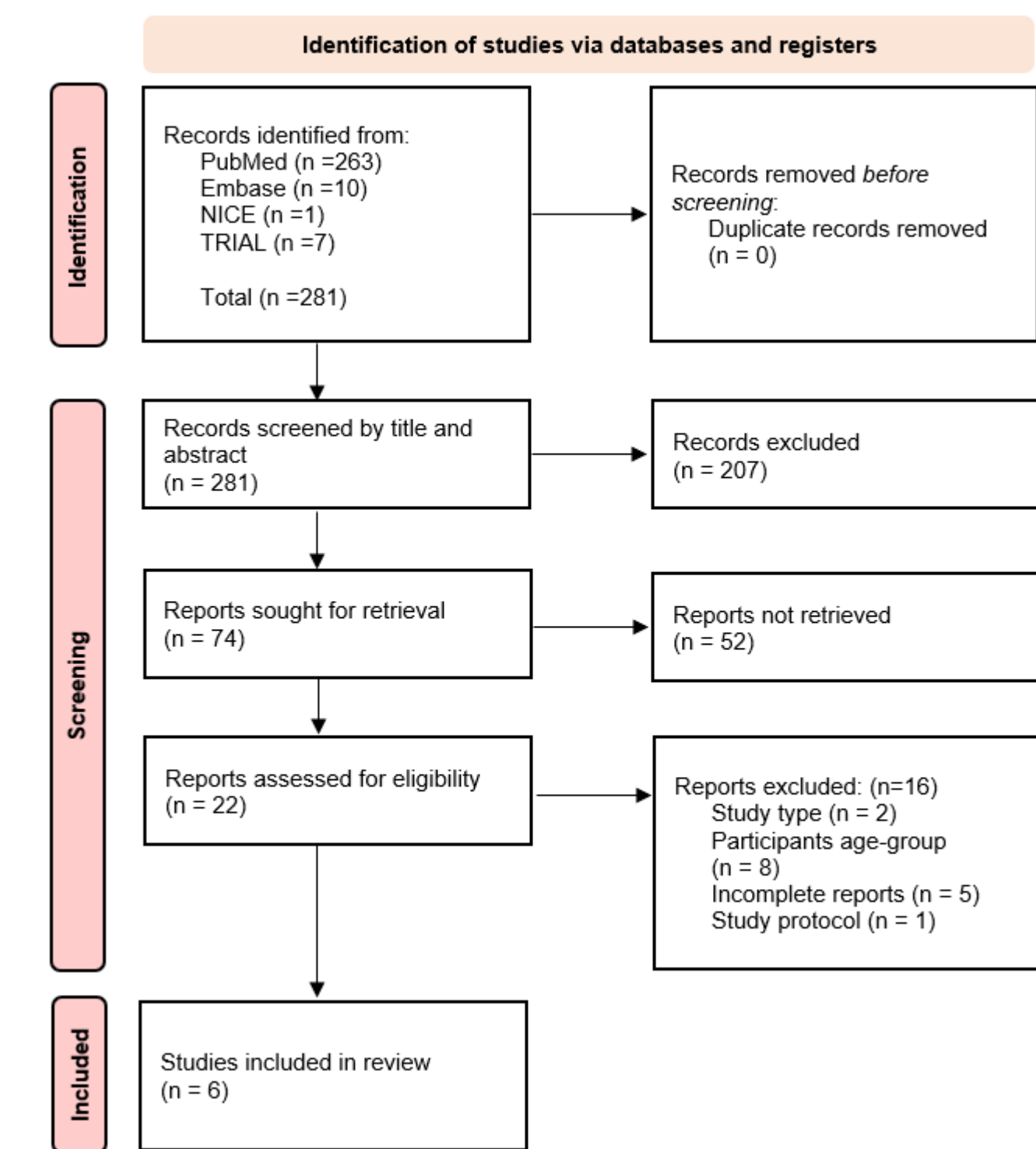


1. Background

Cancer-related oral mucositis (OM) affects mostly children and can seriously impact their nutritional intake, oral-care, quality of life and, at times, course of treatment. As main carers, parental knowledge is essential during OM episodes. There are several therapeutic options, which require clinical evidence. The purpose of this study was to report both parental literacy and evidence-based knowledge of OM.

Grade	Description
0 (none)	None
1 (mild)	Oral soreness, erythema
2 (moderate)	Erythema, ulcers, solid diet tolerated
3 (severe)	Oral ulcers, liquid diet only
4 (life-threatening)	Oral feeding is impossible, requires parental nutrition

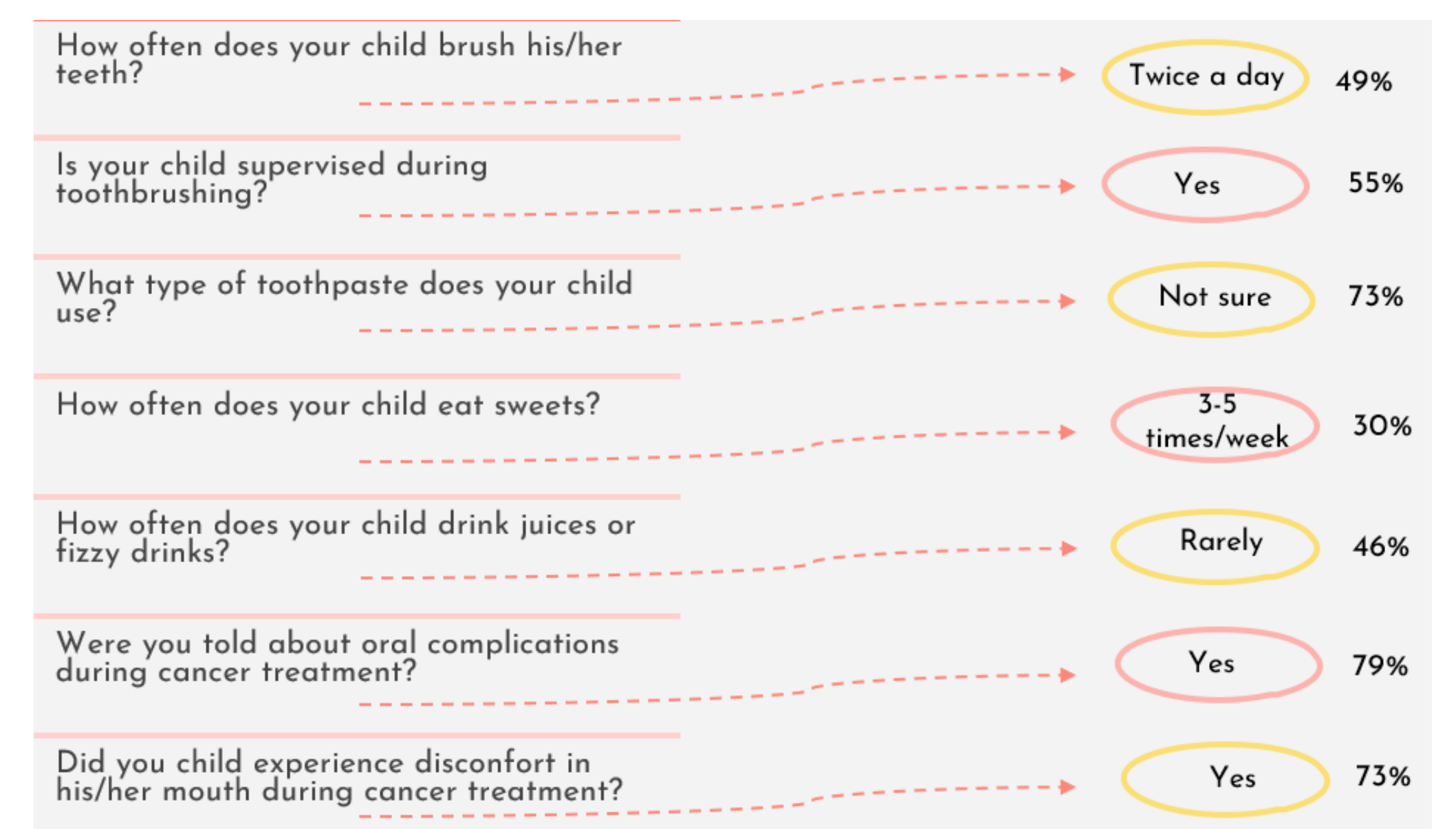
World Health Organization. Vol. 48. WHO Offset Publication; 1979. pp. 15-22



2. Materials and Methods

A parent questionnaire was used on a convenient sample, at a Paediatric Cancer Ward, addressing oral health and OM management. Additionally, a systematic review based on the PRISMA guidelines, was performed in PubMed/MEDLINE®, Embase and grey literature databases. Selection criteria were applied to retrieve articles in the last 20 years, in English and Portuguese.

PICO QUESTION	
Population	Paediatric cancer patients
Intervention	Prevention and Treatment
Comparison	-
Outcome	No OM or improvement of OM



Database	Search Strategy
Pubmed	"oral mucositis" OR "oral cavity" OR "oral mucosa" OR "oral complications" OR "oral mucosa injuries" OR stomatitis[MeSH Terms]
EMBASE	#1 exp mucosa inflammation/ or exp oral mucositis/ or exp mouth mucosa/ or exp stomatitis #2 exp mouth cavity/ #3 exp mouth mucosa/ #4 Exp stomatitis/ or exp mouth disease/ or exp mucosa inflammation #5 1 or 2 or 3 or 4 #6 exp child/ #7 exp childhood/ #8 exp preschool child/ #9 exp preschool child/ #10 exp adolescence/ or exp adolescent/ #11 exp juvenile/ #12 exp pediatric patient/ #13 6 or 7 or 8 or 9 or 10 or 11 or 12 #14 exp cancer chemotherapy/ or exp chemotherapy/ or exp cancer combination chemotherapy/ #15 exp radiotherapy/ or exp radiotherapy/ or exp cancer combination chemotherapy/ #16 exp drug therapy/ #17 exp antineoplastic agente/ #18 14 or 15 or 16 or 17 #19 exp malignant neoplasm/ #20 exp neoplasm/ #21 19 or 20 #22 5 and 13 and 18 and 21
NICE	Oral mucositis AND cancer-treatment AND Children
TRIAL	Oral mucositis AND cancer AND Children

Author Year	OM Therapy	OM Grades	Results
Kamsvåg et al., 2020	Oral criotherapy oral (OC)	All grades	Compliance was poor, especially for the younger children. OC did not reduce the incidence of severe OM, oral pain, or opioid use.
Medeiros- Filho et al., 2017	Low dose laser therapy (LDLT) and LDLT with photoquimotherapy (PCT)	1.7-2 cm ² oral lesions	A statistically significant difference was found between therapies for lesion area.
Soares et al., 2021	Comparison between andiroba oil and LDLT	All grades	The use of andiroba oil effectively reduced the severity of OM and relieved pain.
Nur Aisiyah Widjaja et al., 2020	Oral glutamine	All grades	There was significant difference in the prevention of oral mucositis by oral glutamine vs placebo.
D Lauritano et al., 2013	Intravenous palifermin	1, 2 e 3	Palifermin was able to decrease the severity of mucositis.
J.Morris et al., 2016	Palifermin	All grades	All doses were well tolerated and a good safety profile in 3 paediatric age groups was seen

3. Results

In our sample, cancer treatment related oral complications were high, however oral hygiene measures and dental professional support was not always available. In the literature review, a total of 11693 articles were obtained and after careful selection, according to pre-determined eligibility criteria, 6 articles were included. There is a growing body of evidence on the use of natural products in treating OM.

Study limitations

There were significant differences in the clinical protocols managing OM. Some study designs were not suitable for use with a paediatric group due to feasibility constraints.

4. Conclusions

Oral health support should be given to parents of children being treated for cancer. There are several therapies in the management of OM, however evidence level varies. Good quality randomized control trials are still required. Providing better professional oral care and empowering the parents of children treated for cancer is paramount to improve management of these patients.

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