ORAL HEALTH-RELATED QUALITY OF LIFE IN CHILDREN AND ADOLESCENTS UNDERGOING ANTINEOPLASIC THERAPY: PILOT STUDY

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BACKGROUND

Children and adolescents on antineoplastic therapy are at increased risk for oral and dental complications due to the adverse effects of these therapies on the oral mucosa, altered oral flora, weakening of the immune system and others systems of protection, and by interference with tissue regeneration.¹ Oral/dental complications may be due to their treatment and/or disease.^{1,2} The most common oral complications include oral mucositis, oral infections, xerostomia, dysgeusia, orofacial pain and trismus.² Caries disease and periodontal disease are also commonly detected and are an indirect consequence of antineoplastic treatment through the association of cariogenic diet, changes in oral microflora and inability to maintain good oral hygiene.^{3,4} Oral complications can lead to discomfort and pain, poor nutrition, delays in administration/limitation of dosages of and increased hospitalization time which may compromise quality of life.¹

OBJECTIVES

To assess the oral health related quality of life of children and adolescents undergoing antineoplastic therapy at a pediatric oncology center.

MATERIAL AND METHODS

Ten patients undergoing treatment for cancer aged 8 to 14 years old were assessed from May 2015 to July 2015. Information collected was: demographic data, medical history, oncologic diagnoses and chief oral complaint. Measures of caries experience (dmft/DMFT) and periodontal disease (Community Periodontal Index) were assessed and calculated. Oral health-related quality of life was assessed by the Portuguese validated version of the Child Perceptions Questionnaire (CPQ) in two groups of children and their parents: 8 to 10 years old and 11 to 14 years old. The CPQ presents four subdomains: oral symptoms, functional limitations, emotional and social wellbeing. The questionnaires also contains global ratings of the child's oral health and the extent to which the oral/orofacial condition affected his/her overall wellbeing. The Parental CPQ (P-CPQ) is a measure of parental/caregiver perceptions of the oral health-related quality of life of children which contains the same four subdomains and overall wellbeing questions of CPQ. Mean number of items scored "Often" or "Every day/Almost every day" and per cent of subjects with one or more items scored "Often" or "Every day/Almost every day" were calculated. Non parametric test were used to analyze the correlation between the child's perception of his/her oral health and parents' perception of children's oral health and correlation between CPQ scores with CPI and dmft/DMFT.

RESULTS

Ten patients participated in the study. Mean age of patients was 11.1 years old and 60% were female. Most of the patients were undergoing chemotherapy (n=6), three were undergoing chemotherapy associated with head and neck radiotherapy and one undergoing head and neck radiotherapy. Xerostomia, dry lips, dysgeusia and orofacial pain were the most common oral complaints among patients. The mean dmft was 4, DMFT 0.9 for mixed and/or permanent dentition and CPI was 2.7. Fifty percent of the subjects aged 8-10 reported experiencing oral symptoms "Often" or "Everyday/Almost everyday" and 60% of subjects aged 11-14 reported experiencing functional limitations. There were a significant difference between child's perception and parents perception related to subdomain functional limitations on CPQ₈₋₁₀ group.

Table 1 – Demographic data of groups CPQ₈₋₁₀ and CPQ₁₁₋₁₄

CPQ ₈₋₁₀						CPQ ₁₁₋₁₄					
Age	%	Gender	%	Diagnosis	%	Age	%	Gender	%	Diagnosis	%
8	75	Female	75	Astrocitoma	25	12	16	Female	50	Carcinoma Rinofaringe	16
9	25	Male	25	Glioma alto grau	25	13	68	Male	50	Germinoma	33
				Neuroblastoma	25	14	16			ALL	68
				Rabdomiossarcoma	25					AML	16
										Osteosarcoma	16

Table 2 – Response to the global rating of oral health and overall wellbeing

	CPQ ₈₋₁₀ (n=4)	CPQ ₁₁₋₁₄ (n=10)
Global rating	%	%
Oral health		
Excellent	0	17
Very good	0	33
Good	25	50
Fair	75	0
Poor	0	0
Overall wellbeing		
Not at all	25	33
Very little	50	50
Some	26	17
A lot	0	0
Very much	0	0

Table 3 – Prevalence, extent and severity scores for cancer patients: CPQ₈₋₁₀ and CPQ₁₁₋₁₄ and its sub-scales

SUBDOMAINS	Prevalence (%) ^a	Extent ^{***}	Severity ^{***}
CPQ ₈₋₁₀	50	0.12	16
Oral symptoms	50	0.6	8
Functional limitations	0	0	2.5
Emotional wellbeing	0	0	0.5
Social wellbeing	0	0	0.5
CPQ ₁₁₋₁₄	100	0.10	16
Oral symptoms	33	0.33	5.5
Functional limitations	67	0.40	4
Emotional wellbeing	17	0.11	2.5
Social wellbeing	0	0	0

^a Mean number of items scored "often" or "everyday/almost every day"
^{***} Mean additive score

Table 4 – CPQ correlation values with CPI, dmft/DMFT and P-CPQ

CPQ with	Coefficiente de Correlação ^a (r)	p
CPI	0,256	0,476
dmft/DMFT	-0,289	0,418

^a Correlation of Spearman

Table 5 – Median scores of CPQ₈₋₁₀, CPQ₁₁₋₁₄ and P-CPQ compared to CPQ subscales

SUBDOMAINS	CPQ ₈₋₁₀	P-CPQ	p	CPQ ₁₁₋₁₄	PCPQ	p
Overall wellbeing	4 (1-4)	2.5 (2-4)	0,454	2.5 (0-4)	2 (1-4)	0,748
Oral symptoms	8 (4-9)	4.5 (3-6)	0,068	5.5 (2-8)	5.5 (0-11)	0,916
Functional limitations	2.5 (2-3)	5 (0-1)	0,045*	4 (1-18)	3.5 (0-19)	0,172
Emotional wellbeing	0.5 (0-2)	0.5 (0-4)	0,841	2.5 (0-7)	3.5 (0-8)	0,647
Social wellbeing	0.5 (0-4)	0 (0-1)	0,317	0 (0-7)	3 (0-6)	0,666
Total	16 (7-21)	11.5 (5-16)	0,063	16 (4-44)	16 (7-69)	0,674

^a Mann-Whitney U-test

^{*} p<0.05

Results presents as median (min-max)

CONCLUSIONS

Oral complications due to antineoplastic therapy and/or disease may have a negative influence on quality of life of children and adolescents with cancer. Parents view of oral symptoms were significant different of their children in group CPQ₈₋₁₀.

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