

ORIGINAL ARTICLE

Oral Health-related Quality of Life Impact in Children and Children With Special Needs Undergoing Dental Treatment Under General Anaesthesia – An Institutional Study

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ABSTRACT

Introduction: Numerous studies have examined both the effect of caries and dental care under general anaesthesia affecting children and children with special needs, but there is still scant information on the relationship between both classes. Thus this project is aimed i) to compare oral health-related quality of life in children and children with special needs undergoing dental care under general anaesthesia (GA) and ii) To compare the impact on oral health-related quality of life in children and children with special needs. **Methods:** Forty-six children (25 normal children, 21 children with special needs) are recruited. Participating parents completed a brief version of the Perceptions Questionnaire (P-CPQ) and Family Impact Scale (FIS) before the treatment and subsequent follow-up appointments (4 weeks to 8 weeks). Oral symptoms, social health, psychology, functional limitation, and family effect ratings, the mean, standard deviations, and statistical differences between groups were analysed. **Results:** 52.2% of both parent groups rated the oral health status of their children as low before GA, and it improved considerably, with 69.6% of parents rating post-operatively as healthy. The most recorded impacts at baseline were pain, discomfort, often annoyed and angry among children and parents feeling guilty and upset due to the condition of the child. **Conclusion:** Oral rehabilitation under GA leads to the immediate improvement of oral health, mental, and social quality among the children in both groups. However, for parents of children with special needs, despite the effort to eradicate dental-related issues, the overall quality of life shows no significant improvements.

Keywords: Oral health-related quality of life, Children, Dental, General Anaesthesia

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INTRODUCTION

Oral health-related quality of life (OHRQoL) is a multidimensional term that involves a subjective assessment of the oral health status of the person, functional well-being, social and emotional well-being, care perceptions and satisfaction, and sense of self-image (1). The principle of oral-health related quality of life focuses on how oral health or disease affects multidimensional destructions of domains in human daily social functioning, well-being, physical oral function, appearance concern, and oral health quality of individuals (2). The OHRQoL measures are subjective indicators based on the information given by individuals on their oral health status and its effect on different aspects of their lives (3).

It will make a person perform better in their daily activities by having an excellent oral health condition, thereby improving their quality of life. Individuals with special health care needs often have medical and dental complications that impair their quality of life, which often affects the family through oral conditions (4-6). Treating children with special needs care, however, is not straightforward. In some instances where patients are uncooperative and do not respond to dental care under traditional circumstances, due to their irregular behavioural management (7) or extensive oral rehabilitation (8), they must be treated under GA.

A comprehensive oral rehabilitation under general anaesthesia (GA) usually considered, considering the young age, the anxiety, the type of treatment needed, which depends on the total number and extent of carious lesions (9) thus improving the oral health quality. Children with oral diseases and disorders would harm not only their everyday lives but also their parents (10). Optimum oral hygiene needs to embrace the

beneficial effect for both children and their parents hence can increase the trust and self-esteem of children through the appearance of their teeth, representing the understanding of the form and colour of teeth and their occlusion (10).

Karki S et al. 2019 suggested that due to acute pain or infections, untreated dental caries could disturb eating habits, sleep, self-esteem, and emotions (13). Therefore, it is imperative to treat tooth decay as early as possible, particularly in children. Caries lesions can affect dentition as soon as primary dentition begins to erupt, except in children with a healthy lifestyle, good oral hygiene, and adequate nutrition (14). Other than that, parental factors, including the socioeconomic status of parents, activities, and attitudes, lead to the production of primary dentition caries (15). Through this, having early care for them will improve their quality of life related to oral health, such as enhancing their social contact.

According to the Disabilities Act of Malaysia 2008, individual with disabilities are those who have long-term physical (includes cerebral palsy, spinal cord injury, dwarf, traumatic brain injury), emotional, intellectual (such as dyslexia, autism, and Down syndrome) or sensory impairments that can impede their complete and successful involvement in the society (16). A person's impairment is generally characterised by an inability to learning, easily distracted by extraneous stimuli, engaging in repetitive behaviours, or even unable to control their movements independently. Individuals with special health care needs have a high incidence of developing dental caries (17-20). Specific preventive care should be given to this group of children (21).

Uncooperative behaviour, multiple caries, extensive caries, extractions, and mental illness, especially in children with special needs, are examples of obstacles beyond our capacity and control (25). The aim of doing dental treatment under GA is to ensure that children acting as patients and operators are in a safe environment, and therefore the treatment outcome will be excellent. Studies have revealed that GA has a positive impact on the lifestyle and behaviour of young children (25) and that the families greatly appreciate the treatment (26-32).

Besides, general anaesthesia (GA) is also indicated in patients who have failed to perform a phenological and behavioural technique for the treatment of dental caries (32). GA is reported as an effective method in delivering dental treatment effectively for children who are unable to cope with invasive and psychologically threatening procedures (33) and significantly improves OHRQoL in children and facilitates dental access for very young children (34).

Numerous studies have examined both the effect of caries

and dental care under general anaesthesia affecting children and children with special needs, but there is still scant information on the relationship between both classes. The objectives of the research are therefore twofold: i) to compare oral health-related quality of life in children and children with special needs undergoing dental care under general anaesthesia (GA) and (ii) to compare the impact on oral health-related quality of life in children and children with special needs.

MATERIALS AND METHODS

Samples

Within a convenient sampling, parents or caregivers of children and children with special needs between 5 and 16 years of age who scheduled to receive comprehensive dental treatment under GA are invited. All respondents consented after brief information on the study was provided. The patient selections were based on the following inclusion and exclusion criteria: i) Parents of children between 5 and 16 years of age who have been indicated for comprehensive dental treatment under GA. ii) Parents of children with special needs between 5 and 16 years of age indicated for comprehensive dental treatment under GA. iii) Parents fluent in English and/or Bahasa Melayu. The exclusion criteria are children under 5 years of age, and over 16 years of age, children who do not require dental treatment under GA. This research was conducted at the Faculty of Dentistry and Ward 2, Clinical Teaching Center of Faculty of Medicine, Universiti Teknologi MARA, Sungai Buloh Campus from March 2019 to November 2019.

Ethics approval

The study was approved by the Ethical Committee of Research Management Institute (RMI) Universiti Teknologi MARA (UiTM) (600-IRMI (5/1/6) REC/115/17). The study was carried out per the Declaration of Helsinki 1964. Informed consent was obtained from all the individual participants included in the study.

Respondents grouping

A total of 46 children were selected and later divided into two groups and labelled Group A as normal children (N) and Group B as children with special needs (SN). Twenty-five normal children and twenty-one special needs children are recruited.

Questionnaire

A short version of the Parental Caregivers' Perceptions Questionnaire (P-CPQ) and the Family Impact Scale (FIS) is used as an assessment tool. The questionnaire is administered during the clinical assessment, i.e. before the procedure and at subsequent follow-up appointments, approximately 4 to 8 weeks after GA. On the GA day, one of the parents or caregivers was invited to reply to the questionnaire. The questionnaire is adapted from Thomson WM et al. 2013 (35). It consists of a 17-item pre-operative questionnaire and an

18-item post-operative questionnaire. Each respondent requested to provide the best answer that corresponds to the situation in which they find themselves in or vice versa. The decision as to whether the patient should go to the GA is made by the designated specialist, either Special Care Dentistry or Paediatric Dentistry Specialists. The surgeon / operator who performed the dental treatment later under GA are not made aware who is receiving the treatment. The interviewers were calibrated in the reading and intonation of each question and the possibility of answers.

The items asked mainly to compare the frequency of impacts before and after treatment under GA. As an example, the baseline questionnaire asked; 'In the past 3 months, how often your child missed school/ pre-school because of his jaw, teeth, lips or mouth? (Example: emergency due to toothache or any dental appointment)'. These were scored using 5 response options: '1=Often; 2=sometimes, 3=once or twice, 4= I am not sure'. A 'others' response option was also provided, which most of them answered with 'no/never' or 'seldom' only. The data was scored as 0 to prevent the loss of valuable information. Global rating questions such as 'How would you rate the health condition of your child's teeth, lips, jaws and mouth' were also included in both baseline and follow-up questions as we used the same questionnaire. These were scored on a 3-point scale which consists of good, fair, and poor. The change in the child's quality of life after receiving dental treatment under GA was measured by asking 'Since the operation to fix your child's teeth, lips, mouth or jaw is your child's overall quality of life has. Improve/ Same/Worst/ No effect was included in the follow-up questionnaire as item no 18. The questionnaire collected in a face-to-face method for both post- and pre-surgery interviews by two independent interviewers.

Statistical analysis

Independent t-test was performed to compare the normal children versus children with special needs on all items assessed. The comparison was made at both pre-operative and post-operative treatment under GA. A dependent t-test, on the other hand, was performed to compare between pre-operative and post-operative treatment under GA for each normal children and children with special needs. The significant level set at $\alpha=0.05$, and results are tabulated accordingly.

RESULTS

Oral symptoms, social well-being, psychology, functional limitation, and family impact domain scores were measured and the analysis between pre-operative and post-operative treatment under GA of both groups are shown in table I. Table II shows the comparison pre-operative and post-operative scale values between the children and children with special needs undergoing dental GA treatment. There was a significant difference

between pre-operative treatment for both groups that can be seen in the pre-question of Question 1, $p=0.04$. In the case for Questions 2 to 17 pre-operatively, the p-value is $p>0.05$ which shows that for both normal and special needs children do not have a significant difference in the P-CPQ and FIS items given as one questionnaire. There is no significant difference for post-operatively, as the p-value is $p>0.05$ for each question. However, there is a significant improvement in the oral health status in both groups following GA treatment. Question 18 shows no comparison between pre-and post-treatment as the mean score is used to analyse the overall quality of life of the child after treatment with $p>0.05$.

Overall, the assessment of discomfort, which is always irritated and upset because of their child's condition, has the greatest baseline impact. The question concerning oral symptoms and psychology shows no significant differences between the two groups. Family conflict items such as 'how often you or another family member blamed each other,' also show no significant changes between the two groups. However, there is a significant impact on the item, 'how often did you take time off for work?' 'But it tended to have a lower impact on both domains.

DISCUSSION

The findings demonstrated significant improvements in children's OHRQoL and the positive impact on the quality of life of the family after oral rehabilitation under GA, which was sustained throughout the follow-up period. The tools used to evaluate OHRQoL in this study (PCPQ and FIS) were developed from the short-form versions of the Parental-Caregivers Perceptions Questionnaire and the Family Impact Scale (35). The short-form versions were found to have adequate reliability and validity, and their responsiveness was acceptable in the same way. OHRQoL is described as having an impact on daily life and overall well-being of oral health (33). Initially, the questionnaire was designed to focus on the evaluation of the adult and geriatric population but is now widely used for the assessment of children and adolescents as well (38). As suggested by Parsons et al. 1999, parents or caregivers are always the primary decision-makers, as their opinion will have a significant impact on the outcome of the treatment (36). Moreover, the result will not be reliable if we use the child-self report as it does not have abstract thinking capability until around 6 years of age (37). It will therefore be possible to limit and error if we obtain data directly from children, especially in the case of children with special needs. However, a proxy-rater is required for the assessment of OHRQoL in children due to their development stage and corresponding cognitive abilities in pre-school children (32).

Two domain groups were involved in comparing oral health changes between normal and special needs

TABLE I: Mean difference and p-value between pre-operative and post-operative treatment under GA of both the domain group

Items	Tool	Group	Pre				Post			
			Mean (SD)	Mean diff.	t – value (df)	p – value	Mean (SD)	Mean diff.	t – value (df)	p – value
1. How would you rate the health condition of your child's teeth, lips, jaws and mouth?	P-CPQ	N	2.84 (0.74)	0.46	2.18 (44)	0.04	3.68 (0.56)	0.11	0.59 (44)	0.553
		SN	2.38 (0.67)				3.57 (0.68)			
2. How often your child had food stuck in or between the teeth when having a meal?	P-CPQ	N	3.96 (2.01)	0.25	0.42 (44)	0.68	2.24 (2.47)	-0.09	-0.14 (43.9)	0.888
		SN	3.71 (1.95)				2.33 (1.99)			
3. Does your children have difficulty upon biting or chewing hard foods?	P-CPQ	N	3.72 (2.37)	-0.28	-0.46 (43.23)	0.65	1.64 (2.33)	0.07	0.11 (44)	0.915
		SN	4.0 (1.73)				1.57 (1.91)			
4. Does your child take longer time to complete his/her meal than his/her other friends?	P-CPQ	N	0.60 (0.50)	0.08	0.51 (44)	0.61	0.28 (0.46)	0.09	0.7 (44)	0.489
		SN	0.52 (0.50)				0.19 (0.40)			
5. During last 3 months, how often your child missed school/pre-school because of his/her teeth, lips, mouth or jaws? (Example: due to toothache or emergency with dental appointment).	P-CPQ	N	2.60 (2.08)	0.79	1.28 (44)	0.21	1.76 (1.90)	0.71	1.29 (44)	0.201
		SN	1.81 (2.09)				1.05 (1.80)			
6. Does this pain causes discomfort to your child and they refuse to eat or talk to others?	P-CPQ	N	0.20 (0.41)	-0.18	-1.33 (38.7)	0.19	0.08 (0.28)	-0.02	-0.18 (44)	0.859
		SN	0.38 (0.50)				0.10 (0.30)			
7. During last 3 months, he/she always feeling upset?	P-CPQ	N	3.36 (2.08)	0.03	0.05 (44)	0.96	1.56 (1.90)	-0.92	-1.54 (44)	0.130
		SN	3.33 (1.74)				2.48 (2.14)			
8. During last 3 months, he/she always irritated and frustrated?	P-CPQ	N	3.44 (2.26)	0.06	0.10 (44)	0.92	1.68 (2.02)	-0.46	-0.81 (44)	0.425
		SN	3.38 (1.72)				2.14 (1.85)			
9. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often you or another family member feeling guilty?	FIS	N	3.68 (2.32)	-0.57	-0.99 (41.52)	0.33	1.64 (2.31)	-0.12	-0.18 (44)	0.857
		SN	4.25 (1.52)				1.76 (2.21)			
10. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often you or another family member caused financial difficulty for your family?	FIS	N	2.20 (2.12)	-0.37	-0.58 (44)	0.57	1.36 (1.75)	0.46	0.88 (44)	0.382
		SN	2.57 (2.25)				0.90 (1.73)			
11. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often you or another family member feeling upset because of the child's condition?	FIS	N	3.96 (2.01)	0.29	0.48 (44)	0.61	2.04 (2.44)	-0.01	-0.01 (44)	>0.95
		SN	3.67 (2.11)				2.05 (2.11)			
12. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often you or another family member having difficulty to sleep due to this condition?	FIS	N	2.52 (2.30)	0.28	0.41 (44)	0.68	1.04 (1.93)	0.42	0.79 (44)	0.429
		SN	2.24 (2.32)				0.62 (1.60)			
13. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often your child required more attention from you or others family members?	FIS	N	3.84 (2.00)	0.55	0.91 (44)	0.37	2.04 (2.37)	0.23	0.34 (44)	0.734
		SN	3.29 (2.17)				1.81 (2.16)			
14. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often you taken time off work?	FIS	N	2.44 (2.52)	-0.89	-1.23 (44)	0.23	0.56 (1.33)	-0.87	-1.708 (33.78)	0.097
		SN	3.33 (2.37)				1.43 (1.99)			
15. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often you or another family member had less time for yourself or for family?	FIS	N	1.32 (2.21)	-0.20	-0.322 (44)	0.75	0.80 (1.89)	-0.15	-0.28 (44)	0.782
		SN	1.52 (2.04)				0.95 (1.80)			
16. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often you or another family member blamed each other? (among family members)	FIS	N	0.52 (1.48)	-0.29	-0.66 (44)	0.52	0.52 (1.45)	0.19	0.49 (44)	0.627
		SN	0.81 (1.50)				0.33 (1.07)			
17. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often you argued each other in the family?	FIS	N	0.16 (0.80)	-0.27	-0.83 (44)	0.41	0.36 (1.25)	0.03	0.07 (44)	0.939
		SN	0.43 (1.36)				0.33 (1.07)			
*18. Since the operation to fix her/his teeth, lips, mouth or jaw, is your child's overall quality of life has....	-	N	-	-	-	-	2.96 (0.2)	0.15	1.56 (28.15)	0.130
		SN	-				2.81 (0.4)			

* Question 18 is developed to assess the overall oral health-related quality of life after the general anaesthesia among the children

Table II: Comparison between normal children and children with special needs at pre-operative and post-operative treatment under GA using paired t-test

Items	Tool	Pre/Post	Normal				Special Need			
			Mean (SD)	Mean diff.	t – value (df)	p – value	Mean (SD)	Mean diff.	t – value (df)	p – value
1. How would you rate the health condition of your child's teeth, lips, jaws and mouth?	P-CPQ	Pre	2.84 (0.75)	0.84	4.68 (24)	<0.001	2.38 (0.67)	1.19	- 5.56 (20)	<0.001
		Post	3.68 (0.56)				3.57 (0.68)			
2. How often your child had food stuck in or between the teeth when having a meal?	P-CPQ	Pre	3.96 (2.01)	- 1.72	-2.93 (24)	0.007	3.71 (1.95)	- 1.38	2.59 (20)	0.017
		Post	2.24 (2.47)				2.33 (1.98)			
3. Does your children have difficulty upon biting or chewing hard foods?	P-CPQ	Pre	3.72 (2.37)	- 2.08	-4.69 (24)	<0.001	4.00 (1.73)	- 2.43	4.90 (20)	<0.001
		Post	1.64 (2.32)				1.57 (1.91)			
4. Does your child take longer time to complete his/her meal than his/her other friends?	P-CPQ	Pre	0.60 (0.50)	- 0.32	-3.36 (24)	0.003	0.52 (0.51)	- 0.33	3.16 (20)	0.005
		Post	0.28 (0.46)				0.19 (0.40)			
5. During last 3 months, how often your child missed school/pre-school because of his/her teeth, lips, mouth or jaws? (Example: due to toothache or emergency with dental appointment).	P-CPQ	Pre	2.60 (2.08)	- 0.84	-1.82 (24)	0.081	1.81 (2.09)	- 0.76	1.40 (20)	0.176
		Post	1.76 (1.90)				1.05 (1.80)			
6. Does this pain causes discomfort to your child and they refuse to eat or talk to others?	P-CPQ	Pre	0.20 (0.41)	- 0.12	-1.81 (24)	0.083	0.38 (0.50)	- 0.29	2.83 (20)	0.010
		Post	0.08 (0.28)				0.10 (0.30)			
7. During last 3 months, he/she always feeling upset?	P-CPQ	Pre	3.36 (2.08)	- 1.80	-3.60 (24)	0.001	3.33 (1.74)	- 0.86	1.96 (20)	0.064
		Post	1.56 (1.90)				2.48 (2.14)			
8. During last 3 months, he/she always irritated and frustrated?	P-CPQ	Pre	3.44 (2.26)	- 1.76	-3.36 (24)	0.003	3.38 (1.72)	- 1.24	2.71 (20)	0.014
		Post	1.64 (2.31)				2.14 (1.86)			
9. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often you or another family member feeling guilty?	FIS	Pre	3.68 (2.32)	- 2.04	-3.64 (24)	0.001	4.25 (1.52)	- 2.40	4.61 (20)	0.014
		Post	1.64 (2.31)				1.85 (2.23)			
10. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often you or another family member caused financial difficulty for your family?	FIS	Pre	2.20 (2.12)	- 0.84	-1.77 (24)	0.090	2.57 (2.25)	- 1.67	3.55 (20)	0.002
		Post	1.36 (1.75)				0.90 (1.73)			
11. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often you or another family member feeling upset because of the child's condition?	FIS	Pre	3.96 (2.01)	- 1.92	-3.65 (24)	0.001	3.67 (2.11)	- 1.62	2.74 (20)	0.013
		Post	2.04 (2.44)				2.05 (2.11)			
12. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often you or another family member having difficulty to sleep due to this condition?	FIS	Pre	2.52 (2.29)	- 1.48	-3.00 (24)	0.006	2.24 (2.32)	- 1.62	3.34 (20)	0.003
		Post	1.04 (1.93)				0.62 (1.60)			
13. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often your child required more attention from you or others family members?	FIS	Pre	3.84 (1.96)	- 1.80	-3.93 (24)	0.001	3.30 (2.17)	- 1.48	3.28 (20)	0.004
		Post	2.04 (2.38)				1.80 (2.16)			
14. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often you taken time off work?	FIS	Pre	2.44 (2.52)	- 1.88	-3.66 (24)	0.001	3.33 (2.37)	- 1.91	3.45 (20)	0.003
		Post	0.56 (1.33)				1.43 (1.99)			
15. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often you or another family member had less time for yourself or for family?	FIS	Pre	1.32 (2.2)	- 0.52	-1.76 (24)	0.091	1.52 (2.04)	- 0.57	1.28 (20)	0.214
		Post	0.8 (1.9)				0.95 (1.80)			
16. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often you or another family member blamed each other? (among family members)	FIS	Pre	0.52 (1.48)	0.00	0.00 (24)	>0.95	0.81 (1.50)	- 0.48	1.81 (20)	0.086
		Post	0.52 (1.48)				0.33 (1.07)			
17. During last 3 months, because of your child's teeth, lips, mouth or jaws, how often you argued each other in the family?	FIS	Pre	0.16 (0.8)	0.20	1.00 (24)	0.327	0.43 (1.37)	- 0.10	0.34 (20)	0.741
		Post	0.36 (1.25)				0.33 (1.07)			

children following comprehensive dental treatment under GA, which was evaluated before a surgery and 4-8 weeks later. The result indicates that the assessment of oral symptoms has a significant effect on special needs and normal children. Most caregivers or parents in this study agreed that their child's overall oral health status was greatly improved following GA treatment. Follow-up data shows significant improvements, where majority of parents rated post-operatively as good. The result showed a significant improvement in children's OHRQoL following dental treatment under GA, as agreed in the previous study (2).

There were no significant changes to Questions 2 to 17, as both parents' domains responded differently based on their preferences for their child's functional limitation. Children with special needs, however, have a worse measurement relative to regular children. Children with special needs, for example, have more trouble chewing on hard food compared to average children. This inability caused their OHRQoL impairment comparing to ordinary children, even after obtaining GA treatment. The oral health of the children has also had a significant effect on the family (2, 7-9, 25).

Both parents of children and children with special needs felt guilty when their children had oral health problems. Some of them may also feel upset about their child's oral health. However, very few of them complain that they have a financial problem to get treatment for their child. They also do not blame each other on family members when their child needs dental treatment due to pain, toothache, dental caries, and others (7-9). Due to anatomical malformations of the orofacial cavity and uncooperative behaviour of children, as well as insufficient or sometimes complete malfunction of their stomatognathic apparatus, good oral hygiene can usually be achieved with the assistance of their parents or caregivers (22). Adequate education and motivation for patients and their caregivers are essential as preventive measures for the development of caries, which later aim to achieve and maintain good oral hygiene throughout their lifetime (23,24).

The comparison between normal and special needs of children before and after dental treatment under GA shows a considerable difference, as improvements have been made in most of each group-based question item. In the case of the children with special needs, the child will no longer feel upset or discomfort due to pain after a follow-up study. Most of them often felt upset, irritated, and had difficulty eating longer than others because of their pain. This outcome is also applicable to normal children, as both domains show positive effects and improvement after treatment under GA. Psychology and functional limitation are domain items that most frequently reported to have a significant impact on children at the baseline (39).

Oral disease present in children with special or normal needs may also have an impact on the family. The study highlighted the parent's concern on their child oral health as most of them felt guilty or upset about it. These are the most common impacts in the family section at the baseline. Considering the financial impact, few of them have difficulties in terms of travel costs but not in terms of access to treatment; hardly any of them reported having problems paying for treatment expenses as they are free of charge. However, in Questions 15, 16, and 17, there were no significant differences, as only a small number of parents argued and continue to blame each other among family members for their oral health status. Some of them had less time for themselves than they needed to give extra attention and care when their child has dental problems. This finding is well supported by previously established studies (10,14).

The study implies the social well-being domain was moderately affected and did not have a significant impact on special needs children before and after treatment under GA as parents claimed that children could talk, play and eat even if they had the oral disease because they tended to forget the pain or feel shameless, regardless the loss of their primary dentition. Some of them do not attend school may also due to general health condition such as fever or seizure, and others because they never went to school (13).

Majority of respondents claimed that there was an improvement in their child's overall quality of life after treatment under GA. The outcome shows a comparable improvement between the two studies group, thus emphasised the vital role of parents in seeking treatment at an earlier stage to avoid feeling guilty and upset about their child's oral condition.

CONCLUSION

Undergoing dental treatment under GA has a significant impact on both children and children with special needs OHRQoL. The main reasons for these improvements are the lack of pain and discomfort after GA, as well as the fact that some children no longer have food stuck or have difficulty eating hard food after GA. Encouraging parents to continue dental treatment after GA for their child in improving their quality of life is crucial in holistic long term management.

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