

Comparison among parents of special needs and healthy children on their motivation and expectations of their child's proposed orthodontic treatment: A pilot study

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ABSTRACT

Background: Special needs children present with challenging malocclusions that may not only affect their facial aesthetics, but also masticatory and speech function. There is an increasing awareness of malocclusion among special needs children and their parents. To date, there was no study comparing the motivations and expectations between parents of special needs and healthy children on the proposed orthodontic treatment.

Objectives: To compare parents' motivations and expectations of special needs and healthy children on proposed orthodontic treatment.

Methods: Questionnaires relating to pre-orthodontic treatment motivation and expectation were distributed to the mothers of 21 special needs children (mean age = 11.76 ± 2.19) and 25 medically healthy children (mean age = 10.84 ± 1.21) from Sekolah Kebangsaan Indera Shahbandar (SKIS) in Pekan district, Pahang state of Malaysia.

Results: All children lived at home with their parents. Majority believed their child did not need orthodontic treatment (66.7% special needs; 68% healthy children) and that their child did not understand the purpose of treatment (61.9% special needs; 52% healthy children). 57.1% of parents were not prepared to help their special needs child with the orthodontic appliances care. Improving dental health was perceived as the main motivation for parents to seek orthodontic treatment for their child (81% special needs; 88% healthy children) besides enhancing aesthetic. 66.7% of parents expected that treatment could improve their special needs child's quality of life, with 76.2% expected treatment may improve their child's function in society, and 71.4% believed this would reflect positively on the parents' own social acceptance.

Conclusion: Although both groups of parents have low motivation for the uptake of orthodontic treatment for their children, majority of them have high expectations that orthodontic treatment would improve the child's quality of life and their own social acceptance.

INTRODUCTION

Special needs children are defined as those with serious chronic illnesses, developmental disability, mental retardation, emotional disorder, sensory or motor impairment, or other conditions that call for specialized care programs and interventions¹. They present with challenging dental malocclusions that may not only affect their facial aesthetics, but also their masticatory and speech function². Due to the psychological and social influences, there is an increasing awareness of malocclusion and the demand for orthodontic treatment among special needs children and their parents in the hope that it restores their child's aesthetic and normal function. Orthodontic treatment can often be complicated and prolonged, not only from the challenges posed by the severe malocclusions, but also from the behavioral management point of view.

Previous studies have looked into the comparison of opinions between the parents and their children regarding the orthodontic treatment need³, however none has compared the motivations and expectations between parents of special needs and healthy children on the proposed orthodontic treatment.

OBJECTIVE

To evaluate the motivation for and expectations of proposed orthodontic treatment for special needs and healthy children in the eyes of their parents

MATERIALS AND METHODS

Ethical approval
(IREC 2020-137)

Sample:

- 1) Parents of 21 special needs children
- 2) Parents of 25 healthy children

Location:

Sekolah Kebangsaan Indera Shahbandar (SKIS), Pekan district of Pahang state, Malaysia

Self-administered questionnaire with 9-items⁴:

- 1) Medical conditions of the child;
- 2) Residence of the child;
- 3) Parents' perceived need for their child's uptake of orthodontic treatment;
- 4) Did anyone suggest orthodontic treatment for their child?
- 5) Did anyone influence the parents' decision in deciding to seek orthodontic treatment for their child?
- 6) Child's attitude to orthodontic treatment;
- 7) Readiness of parents in assisting orthodontic care of their child during treatment;
- 8) Parents' expectations of benefits of orthodontic treatment towards their child and themselves; and
- 9) Reasons of seeking orthodontic treatment for their child besides enhancing aesthetic

Results were grouped according to the issues evaluated and analyzed to determine the frequency

RESULTS

Table 1. Demographic profiles of special needs and healthy children

	Male	Female	Mean age (years)
Special needs children	12	9	11.76
Healthy children	9	16	10.84

Table 2. Distribution of medical diagnosis in the special needs children

Intellectual disability	13
Autism	3
Down's syndrome	2
Dyslexia dysgraphia	1
Attention deficit hyperactivity disorder (ADHD)	1
Kidney disease	1
Total	21

Table 3. Residence of the child

	Healthy	Special needs
At home	25	21
With an adoptive family	0	0
Institution	0	0

Table 4. Parents' perceived need for their child's uptake of orthodontic treatment

	Healthy	Special needs
Need ortho treatment	8	7
Does not need ortho treatment	17	14
Total	25	21

Table 5. Suggestion for orthodontic treatment

	Healthy	Special needs
By close friends	1	0
By relatives / family members	1	1
By school dental nurse	1	0
By dentist	1	0
None	21	20

Table 6. Influence for seeking orthodontic treatment for child

	Healthy	Special needs
By relatives	1	0
By school dental nurse	1	0
Total children underwent treatment	2	0

Table 7. Child's attitude to orthodontic treatment

	Healthy	Special needs
Does not understand reason for treatment	52%	61.9%
Aware of problem, but not interested in treatment	40%	33.3%
Highly motivated for treatment	8%	4.8%

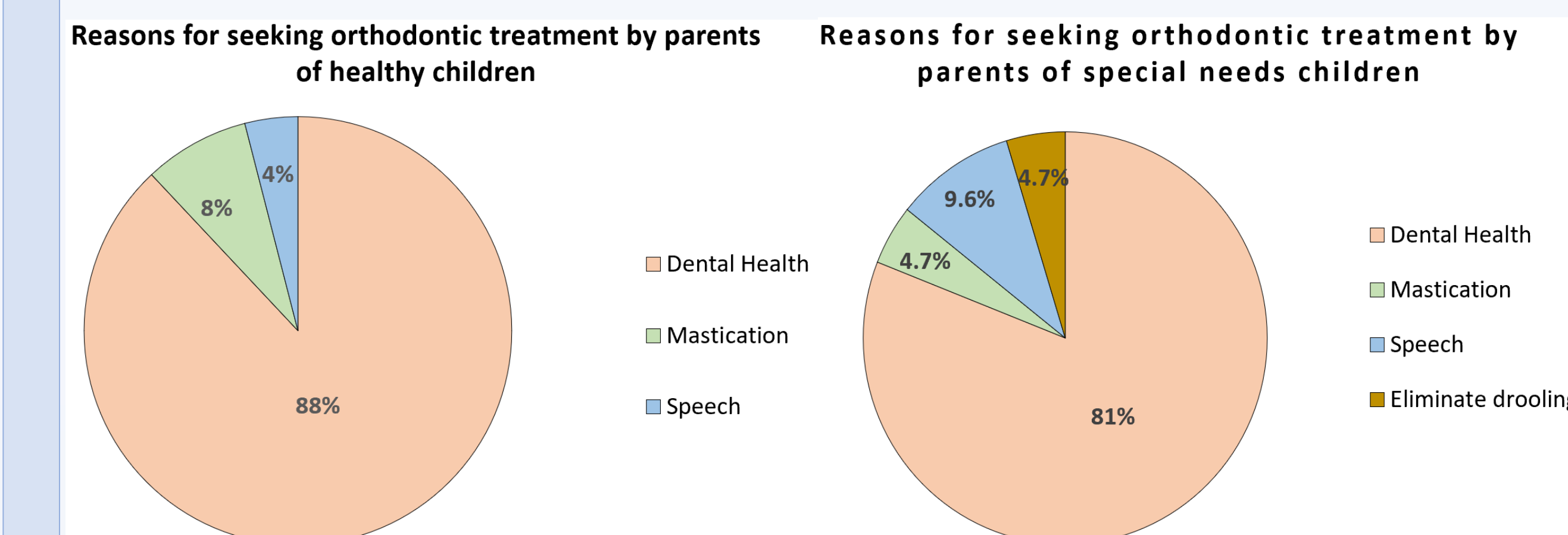
Table 8. Readiness of parents in assisting orthodontic care

	Healthy	Special needs
Prepared to assist child during treatment	64%	42.9%
Not prepared to assist at all	36%	57.1%

Table 9. Parents' expectations of benefits of orthodontic treatment

	Healthy	Special needs
Improve child's quality of life	84%	66.7%
Improve child's function in society	72%	76.2%
Improve parents' social status	68%	71.4%

Figure 1. Reasons for seeking orthodontic treatment (besides aesthetic) by parents of healthy and special needs children



DISCUSSION

Motivation for seeking orthodontic treatment for children is lacking, possibly because parents of both groups resided within the Pekan town with low household income, and believed orthodontic treatment would place additional burden onto the child and the family. Our result concurred with Ackerman and Wiltshire⁵ which showed only 0.5% of parents planned to seek orthodontic care for their disabled children out of 41% of parents who were initially interested. Lack of knowledge in dental malocclusion could be the contributing factor. Lack of understanding of orthodontic treatment and its associated care could result in iatrogenic damage brought about by inadequate oral hygiene should these children proceed with treatment. Most parents of special needs children are not prepared to care for their child's teeth and appliance, due to the greater attention required for the day-to-day care of their children general wellbeing. Both parent groups believed orthodontic treatment would improve facial appearance that is crucial for the child's self-esteem and ultimately acceptance by the society⁴. Parents seek orthodontic care for their children in the hope that it could promote normal occlusal growth and development leading to adequate functional occlusion.

CONCLUSION

Although both groups of parents have low motivation for the uptake of orthodontic treatment for their children, majority of them have high expectations that orthodontic treatment would improve the child's quality of life and their own social acceptance.

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WORKSHOP SCHEDULE (PRE-CONFERENCE)

Friday,
October the 14th,
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*Balai Ungku Aziz,
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2.30-3.00PM Arrival and Registration

3.00-3.45PM **How To Get Your Paper Published?**
*Prof. Dr. Wanninayake Mudiyansele
Tilakaratne*

Principles On Statistics Made Easy
Dr. Mohammad Zabri Johari

**Anatomical 3D Modelling: From
Research To Clinical**
Materialise

**Telescoping Research Procedure
From Ministry of Health Perspective**
Dr Norizan Rosli

3.45-4.00PM Tea break

3.45-4.00PM Continuation of workshops

DAY 1

CONFERENCE SCHEDULE

Saturday,
October the 15th,
2022

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8.00-8.30AM Arrival and Registration

8.30-9.15AM **Plenary 1:** How AI Might Affect our Civic and Working Lives in the Future - *Prof. Dr. Hugh Devlin (Manchester)*

9.35-10.15AM Opening Ceremony and Speeches

10.15-10.45AM **Keynote 1:** The Impact of IR 4.0 Towards the Advancing Collaboration in Healthcare Delivery - *Prof. Dato' Dr Razman Jarmin (HCTM)*

10.45-11.00AM Tea break / Booth viewing

11.00-11.45AM **Plenary 2:** Epidemiology in The Digital Age - *Datuk Prof. Dr. Awg Bulgiba Awg Mahmud (ASM)*

11.45-12.30PM **Plenary 3:** National Oral Health Research Initiative in Malaysia - *Dr. Fauziah Ahmad (MOH)*

12.30-1.15PM **Plenary 4:** Dental Legal Issues Dental Act 2018/Learning From Recent Medico-Legal Cases - *Dr Sofiah Mat Ripen (MDC)*

1.15-2.15PM Lunch / Booth viewing

2.15-3.00PM **Plenary 5:** Research Collaboration - *Dato' Prof. Ir. Dr. Mohammed Rafiq Dato' Abdul Kadir (UTM)*

3.00-5.00PM **Forum:** Leveraging research collaboration amongst academia, industry and government
Panellists: Prof. Dr. Hugh Devlin (Manchester), Prof. Datuk Dr. Kalaiarasu M. Peariasamy (NIH), Dato' Prof. Ir. Dr. Mohammed Rafiq Dato Abdul Kadir (UTM), Prof. Dr. Zamri Radzi (UM)

Moderator: Prof. Dr. Mohammad Tariqur Rahman (UM)

5.00-6.00PM Booth viewing

DAY 2

Sunday,
October the 16th,
2022

Connexion
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Event Centre

CONFERENCE SCHEDULE

8.30-9.00AM Arrival and Registration

9.00-9.45AM **Plenary 6:** Trends Of Teledentistry And Its Potential In Shaping The Future Dentistry (Rules and Regulations) - *Prof. Dr. Cheong Sok Ching (Cancer Research Malaysia)*

9.45-10.30AM **Plenary 7:** Artificial Intelligence In Radiology - *Assoc. Prof. Dr. Yusmiaidil Putera Mohd Yusof (UiTM)*

10.30-11.00AM Tea break/Booth viewing

11.00-11.45AM **Plenary 8:** A Dentist's Guide to AI - *Prof. Dr. Hugh Devlin (Manchester)*

11.45-12.30PM **Plenary 9:** Research Ethics From a Public Perspective - *Mr. Zainal Azhar Ahmad (FDMEC, UM)*

12.30-1.00PM Prize Giving and Closing Ceremony - *Prof. Dr. Zamri Radzi (UM Dental Dean)*

1.00-2.00PM Lunch

Abstract Compilation

Senior Researchers

AB S3: COMPARISON AMONG PARENTS OF SPECIAL NEEDS AND HEALTHY CHILDREN ON THEIR MOTIVATION AND EXPECTATIONS OF THEIR CHILD'S PROPOSED ORTHODONTIC TREATMENT: A PILOT STUDY

Cheong JM*, Abu Bakar N*

*Department of Orthodontics, Kulliyah of Dentistry, International Islamic University Malaysia

Background: Special needs children present with challenging malocclusions that may not only affect their facial aesthetics, but also masticatory and speech function. There is an increasing awareness of malocclusion among special needs children and their parents. To date, there was no study comparing the motivations and expectations between parents of special needs and healthy children on the proposed orthodontic treatment.

Objective: To compare parents' motivations and expectations of special needs and healthy children on proposed orthodontic treatment.

Methods: Questionnaires relating to pre-orthodontic treatment motivation and expectation were distributed to the mothers of 21 special needs children (mean age = 11.76 ± 2.19) and 25 medically healthy children (mean age = 10.84 ± 1.21) from Sekolah Kebangsaan Indera Shahbandar (SKIS) in Pekan district, Pahang state of Malaysia.

Results: All children lived at home with their parents. Majority believed their child did not need orthodontic treatment (66.7% special needs; 68% healthy children) and that their child did not understand the purpose of treatment (61.9% special needs; 52% healthy children). 57.1% of parents were not prepared to help their special needs child with the orthodontic appliances care. Improving dental health was perceived as the main motivation for parents to seek orthodontic treatment for their child (81% special needs; 88% healthy children) besides enhancing aesthetic. 66.7% of parents expected that treatment could improve their special needs child's quality of life, with 76.2% expected treatment may improve their child's function in society, and 71.4% believed this would reflect positively on the parents' own social acceptance.

Conclusion: Although both groups of parents have low motivation for the uptake of orthodontic treatment for their children, majority of them have high expectations that orthodontic treatment would improve the child's quality of life and their own social acceptance.

Keywords: expectation; motivation; orthodontic; special needs

AB S4: A NARRATIVE REVIEW OF THE CHARACTERISTICS OF PERIODONTAL PHENOTYPE IN GENERAL, AND ITS PREVALENCE IN THE ASIAN POPULATION

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†Faculty of Dentistry, Universiti Malaya

Background: Periodontal phenotype affects the maintenance of periodontal health and comprises of gingival phenotype and bone morphotype. These components are influenced by multiple factors. Limited studies had been conducted on the Asian population.

Objectives: To identify, synthesise, and evaluate the current evidence on the characteristics of periodontal phenotype and its biological factors in general, as well as its prevalence and dimension among the Asian population.

Methods: A structured narrative review with the following focused questions: what are the different characteristics of periodontal phenotype and its associated biological factors in general; and what are the prevalence and dimensions of periodontal phenotype in the Asian population? Four online literature resources were utilised, with additions from manual searches. The same keywords were adapted for each search engines. Newcastle-Ottawa scale (NOS) was chosen to appraise all selected studies.

Results: A total of 43 global studies and 44 Asian studies were selected. Five broad categories of factors influencing periodontal phenotype were identified i.e., demographic, genetic, tooth-related, skeletal with neighbouring soft tissues, and environmental factors. Overall prevalence of thick gingival thickness in the Asian population was 52.3% while thin gingival thickness was 47.7%. Overall weighted mean of gingival thickness, alveolar bone thickness, and keratinised tissue width in the Asian population were 1.12±0.21 mm, 0.64±0.10 mm, and 4.29±0.80 mm, respectively. In the Asian population, significant factors which may predispose to thick gingival phenotype include male gender, square-shaped teeth, and younger subjects. Based on the Newcastle-Ottawa scale, most Indian studies were of unsatisfactory quality, and thus susceptible to a high risk of bias.

Conclusion: Many factors were identified to possibly influence periodontal phenotype. The prevalence and dimensions of reported periodontal phenotype of the Asian population were similar to the global population.

Keywords: periodontal phenotype; gingival thickness; alveolar bone thickness; keratinised tissue width; Asian population

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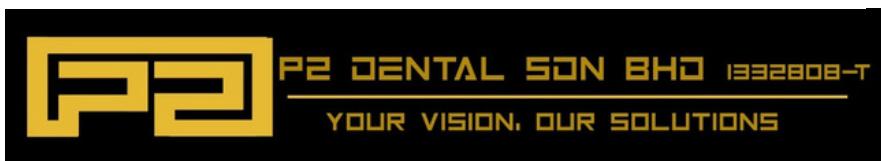
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