



Peer-reviewed article, submitted October 2025, accepted July 2026

‘The middle man’: Auckland Māori and Pasifika adolescents’ perceptions of oral health and influencing factors

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Abstract

Background and Objectives: Inequities in Māori and Pasifika adolescents’ access to dental services and oral health outcomes exist. There is a lack of literature on Māori and Pasifika adolescents’ perceptions of oral health. This study aimed to elucidate Auckland Māori and Pasifika adolescents’ understanding of oral health and experiences of dental care. **Methods:** A mixed-method approach involving an electronic survey and focus groups was utilised in three Auckland secondary schools to investigate Māori and Pasifika adolescents’ understandings and experiences of oral health care. Survey responses were reported descriptively. An inductive thematic analysis was undertaken to identify themes from across the focus groups. **Results:** Survey results indicated adolescents’ confusion about whether they had received treatment, and that many had experienced dental pain. The key themes identified from the focus groups were; difficulty reaching the dentist, past experiences with oral health care, oral health services, future education programmes, and reflections on Māori and Pasifika oral health. **Conclusion:** This study shares views of Māori and Pasifika adolescents on how the dental profession could make oral health care more accessible for them. In particular, the study highlighted the adolescents’ desire for more oral health education and need to be made aware of the availability of publicly-funded dental care. A novel finding of this research is the hidden burden placed on Māori and Pasifika youth acting as the ‘middle man.’ Oral health practitioners should be aware that adolescents often relay health information between their parents and their oral health providers without fully understanding it themselves.

Introduction

In New Zealand (Aotearoa), basic oral health care for adolescents is publicly funded and delivered by dentists or oral health therapists contracted to Health New Zealand: Te Whatu Ora through either the Adolescent Oral Health Scheme (AOHS), or the Community Oral Health Service (COHS). Despite the availability of these services, adolescents are less likely than adults and children to access oral health care (Børsting et al, 2015; Ministry of Health, 2010). Additionally, Māori and Pasifika adolescents are significantly less likely to access this care than their ‘other’ ethnicity counterparts, with access to dental care being a long-standing problem (Areai et al., 2011; Børsting et al., 2015; Broughton & Koopu, 1996; Teevale et al., 2013).

A secondary analysis of data collected for the 2009 *New Zealand Oral Health Survey* (Ministry of Health, 2010), showed that fewer than half the number of both Māori and Pasifika adolescents (aged 15 to 19 years) had visited an oral health professional in the previous year when compared with their non-Māori and non-Pacific counterparts (Smith et al., 2018). Similar disparities in Māori and Pasifika adolescents’ access to oral and general health care were found in the *Youth ’12 Survey* (Fa’alili-Fidow et al., 2016). Furthermore, the two most recent annual updates of the *New Zealand Health Survey* (2022/2023; 2023/2024) report lower utilisation of oral health care among Māori and Pasifika, compared with their counterparts (Ministry of Health, 2024). These findings lead

to concerns that current models of health care, including oral health care, are not adequately meeting the needs of all Aotearoa adolescents (Areai et al., 2011). While few studies have sought to determine or further explore the reasons for these oral health disparities for both Māori and Pasifika adolescents, there have been many studies on wider health disparities. Clark et al (2022) concluded from analysis of self-report data from a cross-sectional survey of 12- to 18-year-olds that age-appropriate indigenous strategies are required to improve health outcomes and reduce inequities for rangatahi Māori.

A cohort study of Aotearoa adolescents in the 1980s reported a utilisation rate of dental services at 45% for non-Europeans, described in the study as predominantly Māori, compared to 78% for Europeans (de Liefde, 1988). In the 1990s, Midland Health in the Waikato region reported that approximately 50% of Māori adolescents in that region had “dropped out” or failed to utilise the General Dental Benefit Scheme provided by the government during that period (Te Puni Kōkiri, 1996). Although rates of enrolment in the School Dental Service have improved, the use of services declines in adolescence. Adolescents face challenges with transport, the need for personal accountability for appointments, and difficulty coordinating with school hours (Foote et al., 2014).



A study of 1178 Pasifika students (aged 13 to 17) found that Pasifika adolescents were twice as likely as NZ European to not seek primary health care, including dental care, when needed (Teevale et al., 2013). Reasons for this included not knowing how to access health care, not being able to contact their healthcare professional, or that they 'could not be bothered.' A concerning finding was that Pasifika youth were three times more likely to report experiencing ethnic discrimination from their healthcare professional than their European counterparts.

Another study used focus groups to explore Pasifika adolescents' understandings of oral health (France et al., 2017). Key barriers identified were that access to oral health care included past negative clinic visits, unsupportive dental practitioners, a lack of arranged dental appointments, and confusion between what parents teach their children about oral health and what the adolescents do themselves. This study also identified key facilitators for a potential increase in accessing oral health services, which included having a strong understanding or awareness of the functional and aesthetic importance of teeth, being treated by supportive dental practitioners and Pasifika dentists, and having cultural and welcoming clinical environments with Māori and Pacific signage, artwork, and literature in waiting areas.

In order to deliver healthcare that provides equitable outcomes for Māori and Pasifika adolescents, further research focusing on Māori and Pasifika people's perspectives is needed (Ministry of Health, 2008). The overarching objective of the current study is to elucidate Auckland Māori and Pasifika adolescents' understanding of oral health and their experiences of dental care. Within this overarching objective the aim is to inform approaches to reduce any inequities in oral healthcare access and outcomes experienced by Māori and Pasifika adolescents.

Methods

A mixed methods approach was utilised to gain an overall picture of Māori and Pasifika adolescents' understandings and experiences of oral health care. A survey was implemented to provide a brief statistical overview, and a series of focus groups were held to provide a deeper understanding of the survey results and the adolescents' perceptions and experiences of oral health care. Prior to the project beginning, ethical approval was obtained from the University of Otago Human Ethics Committee (H22/011). Consultation with Ngāi Tahu, the iwi with which the University has a formal agreement, was undertaken regarding the research design. One of the researchers is Māori and one Pasifika (KN and MS). Three Auckland Schools; Auckland Girls' Grammar (AGG) (girls' school), De La Salle College (DLS) (boys' school) and Onewa High School (OH) (co-ed school), were contacted and informed about the study. These schools were chosen due to their high Māori and Pasifika populations. Schools were informed that this study comprised an electronic survey and focus groups to be conducted between February 2022 and August 2022. Permission to distribute the survey to students via school emails, and to hold focus group discussions with students on school grounds, was given by each principal who also

signed an agreement and provided a designated staff contact to be present during the focus groups.

The inclusion criteria to participate were students between the ages of 16 to 18, of Māori or Pasifika ethnicity, and enrolled in one of the aforementioned Auckland schools. The electronic survey was hosted on the Qualtrics platform. Participants were asked for sociodemographic details alongside eight questions about their oral health based on Areai et al. (2011): See Table 1 for Survey Questions.

The survey was open for two weeks. A reminder email was sent one week after the questionnaire was distributed. Each school determined when to release the survey and when focus groups were held at their institution.

An information sheet and consent field was included at the start of the questionnaire and only data from consenting students was used. Participants were given the opportunity to participate in a focus group by providing their first and last names, and email address on completion of the survey. This information was separated from participants' other survey responses. Students who volunteered to participate in a focus group were placed in a draw to win one of three \$50 Prezzy cards, one for each school. Survey responses were analysed descriptively using Microsoft Excel. Basic descriptive statistics were chosen for analysis because the small number of survey responses meant cross-tabulations would have limitations.

A list of volunteers to participate in a focus group was passed on to each school who then contacted participants and organised a time, date, and venue for the focus group. Each focus group was limited to six students. Although for health research eight to twelve focus group participants are recommended (Curry & Nunez-Smith, 2015), six students was decided upon as the maximum number because of the limited time available for discussion, and for ease of transcription. Focus groups were conducted during lunch breaks, on each schools' campus, and lasted approximately 30 minutes. This timing was decided as it fitted with the students' lunch break, and as the students in each group all knew each other, there was no need for introductions and familiarisation. All discussions were supervised by the school contact person, and conducted by KN and MS. Before the focus groups began, participants were provided with an information sheet and asked to sign a consent form. Focus group discussions centred on participants' responses to the survey questions, family experiences with oral health care, barriers to visiting a dental health practitioner, changes that could be made to oral health services, and past personal experiences with oral health care. All questions were open ended to encourage conversation. Focus groups were audio recorded and transcribed by the research team. Transcriptions were analysed using a thematic approach (Braun & Clarke, 2006). The transcripts were read and commonalities between responses were recorded and then coded. Over several readings and codings of the transcripts, themes were identified, refined, described, and quotes that exemplified each theme were tagged. To prevent identifiability each participant was assigned a unique code. For the same reason, demographic characteristics of focus group participants are not reported, as combinations of demographic details

Table 1. Survey questions and responses

Questions	Population	Response	
		Yes n (%)	No n (%)
1. Have you ever had a filling (by this we mean when you have had a hole in your teeth that a dentist or dental nurse has had to fill)?	Pasifika Māori	24 (62)* 6 (60)*	15 (38)* 4 (40)*
2. Has pain in your teeth or mouth kept you up at night?	Pasifika Māori	15 (33)* 5 (42)	31 (67)* 7 (58)
3. Have you ever had any teeth removed because of tooth decay or gum boil (abscess) or infection?	Pasifika Māori	4 (9)* 1 (8)	39 (83)* 11 (92)
4. In the last 12 months, has there been any time you needed to see a dentist or dental nurse about your teeth or gums, but could not?	Pasifika Māori	13 (31)* 2 (17)	29 (69)* 10 (83)
5. Do you brush your teeth once a day?	Pasifika Māori	20 (43) 3 (25)	
6. Do you brush your teeth twice or more a day	Pasifika Māori	27 (57) 9 (75)	
7. Have you visited a dentist, dental nurse, or other dental health worker within the last year?	Pasifika Māori	29 (73)* 8 (67)	
8. Have you visited a dentist, dental nurse, or other dental health worker within past two -five years?	Pasifika Māori	11 (27)* 4 (33)	

* Percentages have been adjusted as invalid responses have been removed

could have enabled deductive identification of individuals within their school communities.

Results

The electronic survey was completed by 59 (44 from AGG, 11 from DLS, 4 from OH). There were 46 female participants and 13 male. Twenty-eight participants were 16-years-old, 27 were 17-years-old and four were 18. Most participants, 25, identified as Samoan, 12 Māori, 8 Tongan, 8 Cook Island Māori, 4 Fijian and 2 Niuean. Some participants identified with multiple ethnicities. Sixteen students participated in a focus group. The focus group at AGG comprised six participants, six at DLS, and four at OH.

Self-reported oral health experiences

The survey results, summarised in Table 1, showed that at least half of both Māori (50%) and Pasifika (51%) adolescents had received a filling over their lifetime, with 17% from both groups reporting they did not know if they had ever received a filling. Almost half (42%) of Māori and 32% of Pasifika adolescents reported that they had experienced dental pain that had kept them up at night. A notable number of respondents reported they only brushed their teeth once a day (25% Māori, 43% Pasifika). Roughly two thirds (67% Māori, 62% Pasifika) reported to have visited a dental health professional within the past year.

Thematic analysis of focus groups

Five key themes that emerged from the focus group discussions were: difficulty reaching the dentist, past experiences with oral health care, community oral health services, future education programmes, and reflections on Māori and Pasifika oral health. Each of these themes is discussed below and quotes are presented to illuminate the adolescents' knowledge of oral health and their experiences of oral health services.

Table 2. Themes and subthemes from the qualitative analysis

Themes	Sub-themes
Difficulty reaching the dentist	Cost Finding a dentist
Experience with oral health care	Fear Inconsistency in advice Length of treatment Negative memories
Community oral health services	Ease of access Ineffective communication and education
Future education programme	Health curriculum
Reflection of Māori and Pasifika Oral Health	Priority Engagement

Difficulty reaching the dentist

Most participants reported cost as a major barrier to accessing dental care. When discussing cost, participants spoke of the cost of traveling to the dental service, difficulties identifying a suitable oral health practitioner, and the cost of receiving oral health care. Most participants were unaware of the free basic oral health care available for adolescents under the age of 18.

In response to 001's statement, "It's too expensive", two other participants, 002 and 003, explained that the treatment was free. Alongside the surprise of this information to some participants, others reported they had only become aware of this in the last year. Participants in another focus group reported the same.

When discussing factors that make accessing oral health care difficult, participants shared their experiences of lack of connection with dental practitioners: "It's hard when you don't really have a set dentist. Usually, you have a family doctor that all of your family goes to but not a set dentist that you can go to" (007).



Participants also explained the difficulty of receiving dental care increased as they progressed through their schooling. They viewed their oral health appointments as being organised and easy to access when at primary school because everything was organised for them by the school or by the oral health service. However, as they progressed through high school, the responsibility to arrange appointments themselves was a barrier.

Past experiences with oral health care

All focus groups shared mixed experiences with dentists, dental clinics, and mobile dental services. Anxiety was common; 009 explained that they "...aren't committed to going to the dentist, maybe because they're scared." Participants reported anxious feelings because of confusion about treatment indications, and their difficulties trying to explain what treatment has been completed (and why) to parents and family members. For example, 013 described themselves as the 'middle man' between themselves and their mother, dealing with "unclear" comments made by the dentist. Participant 007 similarly said, "because if my parents ask why I got it, I want to be able to explain rather than say I'm not sure why". Others described receiving what they perceived to be contradictory messages which led to confusion. 013 reported, "I went to a dentist at one school. They said I was biting wrong. Then this year when I got a check-up, they said they are perfectly fine"

This led to 013 feeling insecure about their bite and teeth: "Yeah, it's kinda like insecurities came in ... Am I doing it wrong? Am I doing it right?"

Multiple participants mentioned the length of treatment times. For example, 016 explained, "It was really frustrating because I had to walk around with, like, my chipped tooth. I was always trying to cover it up with my lip. It took me a while to try and get that replaced."

Similarly, 014 explained, "So now I have to go around with a missing tooth ... so it's a bit annoying and it was frustrating."

When discussing pain and bad experiences, many participants shared that they had not had any negative experiences with oral health care.

However, some reported traumatic experiences. For example, 015 explained, "When I was like six I had to get silver caps on my teeth. It was very traumatizing because my dad had to take me and then like a lot of blood was coming out and then like he couldn't walk into the girls' bathroom. So he took me into the male bathroom. And I was like crying and he was like just spit the blood out and stop crying."

When asked about family member experiences with the dentist, participants were not aware of any negative experiences that their family members had shared with them.

Community oral health services

All participants agreed that school-based community oral health services make accessing dental care much easier. They explained the Mobile Dental Service made the choice to go to the dentist simpler, and the convenience of visiting the dentist at school was acknowledged by participants.

"It's easy when the school has the mobile dentist because they take you out of class to do it ... most girls choose to go to the dentist" (011).

"...cause some boys they won't go ... but the dentist gives a chance for the boys to go and check their teeth" (005).

"It's better here because you're linked with it. As you move... they move with you" (014).

Some adolescents expressed worries about follow-up appointments and indications for treatment. Most participants agreed that after a treatment or visit, they were often confused regarding the next steps for their care. 008 explained, "[they] said they would come back to finish the work; however, they never came back." Another student recalled, "One time the school van came and they were checking my teeth and my gums started to bleed but I didn't know whether it was my fault or their fault, but I was like ok and they were like oh you need to clean that up and I was like ok, I thought that was your job" (010).

One participant encapsulated the view of their focus group with the comment, "we don't really know the whole context as to what it is for, or why" (013). Other focus group conversations centred on oral hygiene instruction and education given by providers. Only a few positive points were highlighted, for example, 016 explained the provider "used those teeth models to teach us the movements". The general consensus was that there was a lack of education and instruction. For example, 013 said "we don't know what to do to prevent fillings in the future" and that providers should "explain why you need that kind of treatment so I can prevent this ... later on". Another student highlighted the lack of oral hygiene instructions; "I don't even know what floss is" (003).

Participants explained they had little understanding of the treatment they were receiving and suggested that practitioners should "explain why you need that kind of treatment" (016). Similarly, 014 stated they desired more warning when teeth needed extraction and requested providers "give early notices" for what treatment they would receive and when.

Future education programmes

As a result of the lack of education the participants reported, they suggested that oral hygiene be taught in schools as part of the health curriculum.

Participant 012 explained: "You know how, like, some people come in for assembly and teach about rheumatic fever ... do that, but dental." Similarly, 015 stated, "Maybe in schools, kind of learn about the teeth and gums."

Participants also discussed implications of being raised in a Pasifika household on the oral hygiene taught at home: "Within the Polynesian community, we're not taught the same I guess because like, we're taught to brush our teeth but when I came to school I didn't know that we had to brush like three times a day or at night we had to brush our teeth, like that was new to me" (011). Likewise, 016 shared how their own family members were not receiving enough oral hygiene instructions and how this made them worried for them.

One participant shared how their experience with a school education programme reinforced messages given by their parents:

"I was in preschool ... a dentist that came in and taught us. It helped me a lot because even though I heard to brush twice a day from my parents, hearing it again from a dentist was like oh ... they weren't lying" (007)

Reflection of Māori and Pasifika Oral Health

In contrast, when asked why they thought that Māori and Pasifika had worse oral health 011 responded their "...family doesn't see it as a priority. Polynesians, we don't get much information."

Participants suggested more advertisements for free under 18 care: "if they advertised more then I would know it was there and it would make it easier to attend." (010). 012 suggested that "they should put ... different translation posters at the dentists like they do in the doctors". A "bribe" was also suggested to increase engagement "like visit twice and get a free check-up or something, have deals." These views reflect monetary barriers faced by communities.

Discussion

This study explored Māori and Pasifika adolescents' perceptions of oral health and oral health care. The study identified several facilitators and barriers associated with participants' access to dental care. Facilitators for increasing Māori and Pasifika adolescents' access to oral health care services included increased structured support for dental attendance during adolescence, making the clinical environment more welcoming and comfortable, and increasing the importance placed on oral health education in Māori and Pasifika families. The participants revealed standard knowledge of oral hygiene practices but admitted that this knowledge did not coincide with their actual oral health care behaviour.

The middle man

The adolescents self-identified as the "middle man" because they found themselves physically and socially caught between two entirely different communication systems: their family unit and the formal healthcare system.

As the 'middle man' having to relay complex clinical information to parents, or experiencing confusion over what treatment was done, the adolescents demonstrated that the legal requirement of informed consent, according to the Code of Health and Disability Services Consumers' Rights (1996), in which the consumer understands and agrees to care, has not been met. This position also compromises their autonomy as they have to understand dental information without support.

The implication for communication between clinicians, adolescents, and parents is that collaboration is needed to eliminate "middle man" confusion. Clinicians should provide clear explanations of treatment rationale to families, alongside consistent oral health education, to prevent conflicting information being shared with adolescents and their parents. A transparent line of communication between parents and clinicians must also be maintained to ensure mutual understanding.

Dental services during transition into adolescence

A key finding from this study was decreased ongoing support to access dental care for the participants as they progressed through adolescence. Participants believed this to be a factor that influenced their [lack of] access to dental services. Dental appointments during primary school were reported as more organised, but the adolescents noted decreased dental appointments and increased responsibility for organising their own appointments during secondary school. France et al (2017) suggests uptake of dental services for participants declined as they aged because access was becoming more dependent on their individual actions, and personal responsibility was demanded. This trend has also been observed among adolescents in Finland (Honkala et al., 1997).

More comfortable and welcoming dental environments

Another key finding was the adolescents' perceptions of dental clinics as uncomfortable and uninformative. This finding suggests the need for dentists and oral health practitioners to provide sufficient and coherent information to adolescents, regarding treatment needed and, more importantly, why it is needed. A patient who has been informed, educated, and given appropriate explanations regarding dental treatment is likely to have an increased perception of the value of dental care and oral hygiene practices (Brown et al., 1999). Further, Bacal and Jansen (2010) argue that Pasifika patients are likely to develop a negative image of their health practitioner, which can adversely affect their utilisation of health care services, if health practitioners do not spend time building rapport. This is also relevant for Māori patients, who place a significant emphasis on establishing trust in patient practitioner relations (Koopu et al., 2005). Trust can be developed by taking the time for introductions, and investing in brief conversation, as Māori rely heavily on interpersonal connections. This can serve as a basis for establishing a therapeutic relationship (Durie, 2001). A culturally appropriate approach by a health provider is a key element in determining both the willingness of people to access services and the success of the treatment of care then delivered (Durie, 2001).

Patients prefer oral health professionals who are friendly and approachable (Shigil and Awinashe, 2010; Henríquez-Tejo and Cartes-Velásquez. 2016). Introducing humour into interactions with Māori and Pasifika adolescents might encourage increased dental attendance of these populations and minimise the common societal perception of health professionals as intimidating (Dieppe, 2002; France et al., 2017).

Parents and their respective Māori and Pasifika communities

The participants of this study identified parents as role models. They recommended that parents as well as wider Māori and Pasifika communities should be educated on the importance of oral health and regular dental attendance. Participants suggested translating different materials into

their respective languages to potentially increase engagement and comprehension amongst Māori and Pasifika people (Public Health Group, 1997; Tiatia 2008; Medical Council of New Zealand, 2010).

Evaluating the research

This study had several limitations. Firstly, it involved sampling of participants from the South and Central Auckland region only, with females being over-represented in the sample. However, Pasifika ethnicities were well represented and reflected the diverse Pasifika cultures present in New Zealand, and as such the findings are relevant and informative. The findings have most relevance to similar populations and may not be generalisable to the wider NZ population. Future research on Pasifika adolescents' perceptions of oral health should include more male participants and show greater diversity of Pasifika ethnicities.

Regarding qualitative methodology, there is a lack of consensus for assessing its quality and robustness, however constant comparison and checking for inter-rater reliability (IRR) during analysis processes ensured a high degree of data credibility (Mathison, 1988; Burnard, 2008).

Qualitative research does not aim to be generalisable; however, information obtained is transferable and can be used to inform the development of future qualitative and quantitative studies. Further research could include expanding the sample to include Māori and Pasifika outside of the Auckland region, where adolescent services within Health New Zealand/Te Whatu Ora could be utilised and online surveys be distributed, as suggested by France et al (2017). This research could also be expanded to include non-Māori and non-Pasifika to provide information on any inequities or disparities if present. Such data would provide greater understanding as to what interventions could be implemented to improve access and to reduce barriers within oral health care specific to Māori and Pasifika adolescents.

Conclusion

This study shares views of Māori and Pasifika adolescents on how the dental profession could make oral health care more accessible for them. In particular, the study highlighted the adolescents' desire for more oral health education and need to be made aware of the availability of publicly-funded dental care. A novel finding of this research is the hidden burden placed on Māori and Pasifika youth acting as the 'middle man.' Oral health practitioners should be aware that adolescents often relay health information between their parents and their oral health providers without fully understanding it themselves.

Acknowledgements

We acknowledge Auckland Girls Grammar, De La Salle College and Onehunga High School, and their staff who enabled the distribution of the survey emails and allowed their students to be participants in our study. We are grateful to the survey and focus group participants for sharing their valuable time and experiences.

Author contributions

Conception and design of the study – all authors
Data collection – CHR, KJRN, MTPS
Data analysis and interpretation – CHR, KJRN, MTPS
Drafting the article – CHR, KJRN, MTPS
Critical revision of the article – LA, AM
Final approval of the version to be published – All authors

Conflicts of interest/competing interest

The authors report no conflicts of interest.

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