Peer-reviewed paper; submitted October 2016; accepted January 2017

Pacific adolescents' attitudes to and beliefs about oral health and oral health care in two southern cities

France AJ, Anderson VR, Laqekoro Z, Foster Page LA

Abstract:

Background and Objectives: Inequities in the use of publically funded dental services are apparent among New Zealand adolescents. Pacific adolescents access State-funded dental care less, and experience lower levels of oral health, than non-Pacific adolescents. The aim of this qualitative study was to investigate Pacific adolescents' attitudes to, and beliefs about, oral health and oral health care, in order to increase understanding of their use or non-use of free dental care services.
Methods: Data were collected through four focus group interviews with Pacific adolescent participants aged from 13-18 years: two groups in Christchurch and two in Dunedin, New Zealand. Participants were purposefully recruited through the research team members' personal and professional networks. Following transcription, the interview discussions were analysed inductively, using thematic analysis.
Results: The study identified a number of factors that enabled and limited Pacific adolescents' access to dental care. Enabling factors included: awareness of the cosmetic and functional importance of teeth, positive perceptions of dental professionals, supportive and comfortable dental environments, culturally sensitive dentists, and Pacific Island dentists. Barriers included: negative perceptions of dentists; loss of structured support for dental attendance during adolescence; a mismatch between parents' and/or caregivers' guidance and behaviour around oral health care; and uncomfortable, unsupportive and uninformative dental environments.
Conclusions: New Zealand Pacific adolescents' perceptions of oral health appeared to influence their access to publically funded dental care. Ongoing support is needed from school, community, family, friends and dental practitioners in order to facilitate their increased uptake of care.

Introduction

Pacific people are a fast-growing ethnic minority in New Zealand with a predominantly young population cohort (New Zealand Ministry of Health, 2010; 2014). This young population represents a challenging group in terms of oral health. Despite the removal of financial barriers, New Zealand Pacific adolescents are accessing free (publically-funded) dental care less than their non-Pacific counterparts, and they continue to experience lower levels of oral health (Fitzgerald et al, 2004; Petelo et al, 2004; New Zealand Ministry of Health, 2010; Areai et al, 2011; Børsting et al, 2015). Poor oral health remains an important health issue, with untreated dental caries being one of the most prevalent conditions worldwide (Kassebaum et al, 2015). Despite the improvement of New Zealanders' oral health over time, unacceptable ethnic inequalities in dental caries experience remain, and Pacific communities are among those who are most affected (Fitzgerald et al, 2004; Petelo et al, 2004; New Zealand Ministry of Health, 2010; Areai et al, 2011; New Zealand Ministry of Health, 2014; Børsting et al, 2015).

All New Zealanders under the age of 18 are entitled to State-funded dental care through the Oral Health Service for Adolescents (OHSA). Irrespective of this assistance, uptake of this service by eligible adolescents is unequal across ethnic groups. This is evident in the 2009 Oral Health Survey (OHS) where the prospect of Pacific children and adolescents visiting an oral health provider for dental care was significantly lower than for non-Pacific children and adolescents (New Zealand Ministry of Health, 2010). Self-reported data from a more distinctively adolescent-based national survey also revealed unequal uptake of dental care by ethnicity, specifically, lower levels of uptake among New Zealand Māori and Pacific youth (Areai et al, 2011). Recent investigations into influential factors for adolescent dental service uptake further highlight profound ethnic inequalities in oral health care access, adversely affecting New Zealand Pacific adolescents (Børsting et al, 2015). In a pattern which is observable in similar overseas studies, the risk of ethnic minority groups not receiving equal access to dental care is a concerning reality for our New Zealand population (Manski and Magder, 1988; Watson et al, 2001; Yu et al, 2001).

Inadequate uptake of dental services by Pacific adolescents is reflected in their poorer oral health status compared with non-Pacific adolescents. In contemporary New Zealand oral health research, regular dental visiting is associated with better health outcomes (Broadbent et al, 2006; Lawrence et al, 2008; Thomson et al, 2010). It is concerning that routinely collected School Dental Service data from recent decades reveals the

continuation of considerable oral health differences between Pacific and non-Pacific children. For example, the National Ministry of Health's report *'Ala Mo'ui: Pathways to Pacific Health and Wellbeing 2014-2018* revealed that only 40% of year 8 Pacific children in 2013 were caries-free, in comparison to 61% of the total population (New Zealand Ministry of Health, 2014). Similarly, an earlier New Zealand study exploring oral-health inequalities among children, reported that by the age of five the probability of children from Pacific descent having dental caries (and more severe dental caries) was significantly higher than for other children (Thomson et al, 2002). The 2014 Community Oral Health Service data reported Pacific Island 5-year-old children as presenting with nearly two times the severity of caries as European children, and with more severe caries than Māori children; European children had an average dmft score of 1.8, Māori children, 2.4, and Pacific Island children, 3.3 (New Zealand Ministry of Health, 2014). Findings from the National Children's Nutrition Survey also indicated that Pacific children were more likely to need a tooth extracted due to dental caries (Parnell et al, 2003). In accordance with Thomson and colleagues' (2003) 'Life Course Approach', which acknowledges early life events and their relation to later outcomes, one could assume that poor oral health and dental caries in Pacific children may predict poor oral health in Pacific adolescence and adulthood (Thomson et al, 2003).

Suggested reasons for Pacific people's poorer health outcomes include social, cultural and economic factors such as poorer housing conditions, lower levels of income, and lower educational attainment compared to non-Pacific people (Thomson et al, 2002; New Zealand Ministry of Health, 2003). However, the literature suggests that factors associated with poor dental attendance by adolescents also include a view of dental surgeries as alienating places, experiences of unpleasant treatment, and a perspective of dental clinic visits as being irrelevant, unnecessary, or boring (Fitzgerald et al, 2004; Murray et al, 2015).

In summary, although the phenomenon of poor attendance is not limited to Pacific adolescents, evidence suggests they are more likely to be irregular visitors, and to experience poorer dental health status *and* poorer overall oral health outcomes. Since dental care is self funded once people in New Zealand turn 18, these problems may worsen and the Pacific demand on dental resources may escalate in the future (Thomson et al, 2003; Petelo et al, 2004).

Methods:

In this exploratory study, we used a qualitative approach to investigate Pacific adolescents' knowledge and experiences of oral health and oral health care. The aim was to identify factors likely to support or hinder Pacific young people's access to oral health care, to explore their health priorities and understandings of current oral health care services, and other beliefs and values that are potentially relevant to Pacific young people's oral health.

The study was cross-sectional in design and utilised a qualitative methodology. Participants were recruited through non-random purposive sampling following approval from the University of Otago Health and Disability Ethics Committee (HE15/012). The study was situated within an interpretive paradigm, aimed at providing insight into complex social situations to enable better understanding of people's perceptions and ideas surrounding a specific phenomenon (Bullock, 2010). It was also informed by critical sociological perspectives that contest negative representations of young people and Pacific peoples and that seek to foreground youth and Pacific voices in relation to matters that concern them (Anae et al, 2001; Stokes et al, 2006; Smith, 2013).

Data were collected through four focus group interviews. Each group included between 4-10 young people of Pacific heritage. Two focus groups were held in Christchurch, and two in Dunedin. Recruitment to the study was facilitated through the research team members' shared knowledge of and connections with Pacific communities in Christchurch and Dunedin. The participants were aged from 13-18 years old, and included full-time secondary students, and unemployed or employed adolescents who had left or finished schooling. Information on participants' age, gender and SES was collected from each group. This information was then anonymised. We did not ask the participants explicitly to identify their ethnicity or whether they were New Zealand or Pacific-born.

A student researcher (ZL) facilitated all focus group discussions during the 2015-2016 summer under the guidance of an experienced qualitative researcher (VA). Informed consent was sought from all participants prior to each focus group. ZL was of a similar age and ethnic background to focus group participants, which encouraged the development of rapport. The research team developed a focus group discussion guide, which was based on a comprehensive literature search exploring Pacific and young people's attitudes and beliefs in relation to health and oral health, as well as barriers and enablers to oral health care. Broadly speaking, the questions focused on oral health behaviours; perceptions of good/bad teeth; oral health support from the community, school, family and peers; and experiences and perceptions of dental providers. Specific questions exploring the role of Pacific cultures and values were also included in the guide. The focus group questions were initially piloted in Dunedin with a small group of Pacific adolescents, and modifications were made based on their feedback.

All focus group discussions were audio recorded with the participants' permission. The recordings were then transcribed and analysed. Transcripts were analysed inductively and thematically alongside the focus group facilitator's field notes. In the absence of a predetermined hypothesis, inductive analysis allows for themes to emerge with more flexibility and less potential for bias (Burnard, 2008). Specifically, ZL began by coding the transcripts in relation to the discussion guide questions, research aims and relevant literature informing the study. He identified an initial list of dominant themes and subthemes. AF then independently coded the transcripts, in consultation with the research supervisors (LFP and

Table 1: Oral health themes and subthemes that emerged in focus group discussions with pacific adolescents.

Themes	Sub-themes
Negotiating the importance of oral health	Social and functional significance Awareness and understanding
Transitioning into adolescence	Loss of structured support Apathy towards oral health Parental influence
Perceptions of dentists	Negative perceptions Positive perceptions
Support in accessing dental services	School support Family and community support Dental provider support

VA), again identifying dominant themes and subthemes, as well as 'outliers'–themes that stood out as exceptional, unusual, or as providing contradictory evidence (Thomas, 2006). Where multiple readings of the data were possible, participants' comments were coded in more than one way (after Thomas, 2006). Following independent coding by ZL and AF, comparable codes were combined. Independent coding by two investigators, in consultation with two research supervisors, provided investigator triangulation, ensuring coding credibility (Mathison, 1988).

Results and analysis

Four themes and ten sub-themes emerged from the focus group discussions (see Table 1). Each of the themes are described and illustrated below.

Negotiating the importance of oral health

Participants highlighted the importance of oral health by acknowledging the contribution teeth made to day-to-day life. They identified two different (but inter-related) ways in which teeth shaped a person's everyday wellbeing: by enhancing their image or contributing to stigma, and by allowing or restricting a person's ability to function well. These sub-themes can be described as reflecting the social and functional significance of teeth. Participants stressed the social significance of teeth. For example, they highlighted the importance of aesthetics, describing good oral health as allowing a person to have "beautiful white teeth", "mak[ing] you look good", and contributing to positive self-esteem and social influence (for example, "[you feel] more confident with healthy teeth"). Participants linked 'healthy smiles' with social success, and in particular the development of intimate relationships. For example, one participant commented, "No teeth, no chicks", and another, "You want to keep it fresh for you know, you know, that contact…". Conversely, halitosis (bad breath) was considered detrimental to all social interaction, as one participant stated, "Maybe hard for them [people with bad breath] to communicate with each other, with others, if others can't stand their breath". Participants perceived unhealthy teeth to be unacceptable and commonly associated with neglectful behaviours such as unhealthy eating, smoking and drinking. In terms of their functional significance, the participants identified oral health and healthy teeth as necessary for eating, and therefore, survival: "Because if you've got no teeth you won't be able to eat; if you ain't got no teeth you won't be able to survive". Participants tended not to relate healthy teeth to general health. While they acknowledged the functional role of teeth in terms of eating, participants did not seem to perceive oral health as being connected to a person's physical wellbeing more broadly.

Participants were able to describe appropriate personal hygiene strategies for the maintenance of optimal oral health, however their descriptions of what should be done did not necessarily seem to reflect their actual behavioural practice. Most participants indicated that they brushed their teeth regularly. However, other oral health promoting behaviours such as flossing, diet consideration and annual dental visits were deemed "a bit hard" and apparently less common. Despite the participants' insightful accounts about the importance of oral health and how to achieve this, actually engaging in health promoting practices (beyond brushing) seemed problematic.

Transitioning to adolescence

The participants' focus group discussions suggested that the transition to adolescence shaped their oral health and oral health practices in several ways. Firstly, the number of participants' dental visitations seemed to decrease with increasing age. Despite most participants being aware that State-funded dental care continued until the age of 18 it was evident that the emphasis placed on accessing such care at secondary school level was significantly less than when at primary school. Adolescence is a crucial developmental stage where challenges surrounding autonomy and independence exist. In our study, participants identified a lack of structured access and ongoing support during their teenage transition as contributing to their failure to use State-funded dental services. For example:

> We stopped going to the dentist in like, when we start high school… Not as much [encouragement] as like intermediate and primary.
>
> Cause when you go to primary, of course they're going to take you to see the dentist and stuff.

The Pacific focus group participants suggested that there is widespread apathy among their peers in relation to oral health. For example, one participant said, "Like, nowdays, they (adolescents) don't really want to talk about it". The participants suggested that young people see oral health as a mundane topic that has little significance to them personally. For example: "…Like to be honest, it's boring if I'm like 'sup bro, I brushed my teeth today, I went to the dentist,' you know? Just, no offence".

The participants in our study described a marked difference between their own oral hygiene habits and those of their parents and/or caregivers. Many noted that their parents, or close adults, failed to 'practice what they preached' in relation to oral health practices. For example:

> I feel like adults are more careless about their teeth than younger people are.
>
> They (adults) always tell you to brush your teeth… But you don't ever see them do it.
>
> Um well, nowadays they (parents) don't really brush their teeth and like they only make us brush our teeth but they barely [brush them themselves].

One participant described a parent as being too "stuck in his own tradition" to attend the dentist. The participant claimed that, in the Pacific Islands, not going to the dentist or doctor was "normal," and that the parent pulled out their own tooth with pliers because it was "easier and cheaper" than paying for oral health care. Notably, the participants' body language and facial expressions when discussing the mismatch between their parents' oral health care advice and subsequent behaviour suggested that this was a source of confusion for the young people in our study.

Perceptions of dentists

Focus group members' perceptions of dentists were mainly related to personal experiences as well as anticipated outcomes, wariness and guilt. Negative experiences of visiting the dentist were associated with unpleasant sensory stimuli, noises and pain. In addition, the participants revealed common feelings of being vulnerable to and misunderstood or judged by dental professionals. For example:

> I get nervous sometimes… oh um, that I might have bad teeth.
>
> Like they'll be looking in your mouth and they'll be like 'you really need to brush twice a day' and you're like 'oh my gosh (I do)'.
>
> Come and judge my ugly teeth.

It was evident in the focus group discussions that individuals' positive experiences and consequent attitudes were determined by visits associated with positive outcomes. However, when such outcomes were not anticipated due to self-neglect or a lack of oral health care, participants expressed negative or reluctant attitudes, and a desire to avoid judgment and confrontation. Sometimes, positive and negative perspectives were intertwined in participants' comments. For example, when asked if they liked to go and see the dentist, one participant answered,

> Yes and no…[yes]. Because they (dentists) help you clean your teeth and they can prevent you from getting holes and stuff like that. But then, no, because if you haven't been taking care of your teeth you feel like they judge you, well that's what I think.

In accordance with the previous theme, participants reported better oral hygiene practice and dental attendance during primary school. They suggested that the compulsory and structured nature of dental visits during primary school years overcame barriers such as lack of motivation and anxiety. However negative early experiences may have adversely affected some participants as they transitioned into adolescence, since participants' choices about whether or not to access dental care seemed to be informed by their early experiences with the dental profession. The impact of negative early dental care experiences was evident in the following participants' comments:

> Yeah, mostly primary, you, you have to go, even though you don't want to…
>
> No I hated it, they pulled me out of class, and man the lady at school, she had heaps of stuff in my mouth and she was just like,… I was in there for like two hours man, and she was just like sitting, sitting at the window and looking at me and I'm just like ah, laying there for a whole half hour wondering what, why's my mouth like this.

Support in accessing dental services

Support or a lack of support was a primary factor that influenced whether or not participants accessed State-funded dental care. Failure to receive ongoing support to visit the dentist throughout the transition from primary to secondary school, along with contradictory parental influences, seemed to negatively impact on participants' access to dental care. Participants strongly suggested that school support should continue, for example, "At schools, yeah… they definitely should [promote oral health and tell students about free dental care] aye, at assembly yeah". Participants also suggested that, in the home environment, a lack of knowledge of and support for accessing dental services could be addressed through television advertising highlighting the importance and availability of free oral health care for young people.

Focus group discussions highlighted parents, other family members, friends and the wider community as important agents in promoting or limiting young people's access to dental care. Multiple participants noted that support from others might alleviate young people's fear regarding dental visits, and encourage them to attend upcoming appointments:

> Maybe get someone to encourage me, sort of, yeah, because sometimes I'm lacking confidence… So I don't like seeing people (dentists)…. I guess, maybe one of my cousins because they're really there for me.
>
> And this sounds really weird but, maybe the lacking of a support system [is a barrier], because I know some people get really scared of going to the dentist…If they

had people who are like really supportive, I don't know, just someone to talk to [maybe they would go].

The participants also suggested that the wider community could play a role in supporting young people's access to dental care, such as ensuring that transport was available, and that young people did not have to attend appointments alone, for example: "…just help out people in the community, so they can organise rides for younger people to be able to get to dentist if they applied for it I guess".

One participant suggested that having a support person would not be enough to encourage him or her to attend dental appointments, saying, "I don't think it would make it any easier 'cause like you're there and you get all these [emotions]; you still get scared of going to the dentist". The participant emphasised the role of the oral health provider in supporting young people's access to their services, for example, by promoting a comfortable environment and providing clear and non-threatening information about the treatment:

Or maybe if you like knew, kind of knew more information about like what you're going in for, because like some people may just be like 'oh you're going in for a filling, oh mean', but it could be the worst time of your life, so if someone kind of explained it to you, in a way that you could understand and [you were] like comfortable I guess, with them, it would make it a bit easier.

Another participant noted that the availability of Pacific providers might enable Pacific patients to feel more comfortable in accessing dental care, saying, "[a] Pacific Islander – you'd be like more comfortable, than with other dentists". This idea was affirmed in subsequent discussion with other focus group members. One recalled: "I went to like a half-caste Pacific Islander dentist, and she was like real nice and like she kept joking around, like made it more comfortable".

Discussion

This study aimed to explore Pacific adolescents' perspectives of oral health and oral health care. The study identified a number of enabling factors and barriers associated with their access to dental care. Enabling factors included: awareness of the cosmetic and functional importance of teeth, positive perceptions of dental professionals, supportive and comfortable dental environments, culturally sensitive dentists, and Pacific Island dentists. Barriers included: negative perceptions of dentists; loss of structured support for dental attendance during adolescence; a mismatch between parents' guidance and behaviour around oral health care; and uncomfortable, unsupportive and uninformative dental environments. The participants revealed considerable knowledge about how to care for teeth, but admitted a mismatch between their knowledge of what they should do, and their actual oral health care behaviour. While good oral health was clearly valued for a cosmetic and functional appearance, the participants suggested that oral health per se is not of great interest to Pacific young people.

This study had several limitations. First, it involved convenience sampling of participants from known Dunedin and Christchurch Pacific communities. We did not ask our participants to identify their ethnicity or place of birth, and as an exploratory, small-scale, qualitative study, its findings are not statistically generalisable to all New Zealand Pacific adolescents. However, our findings provide rich insights likely to inform both current dental practice and the development of future research (see below). A further limitation is that two of the focus groups had less than the desired amount of participants (between 7-10) with only four to five focus group members. This may have restricted the development of discussion and emergence of additional themes; however, the participants in these focus groups were particularly vocal and interactive, and eagerly shared their opinions. Notably, the final focus group did not result in any new themes, suggesting a satisfactory level of theoretical saturation.

As with all qualitative methodology, there is no definite answer to the issue of validity, however constant comparison, searching and identifying relevant deviant or contrary cases, and checking for inter-rater reliability during the analysis process ensured a high degree of data credibility (Mathison, 1981; Burnard, 2008). Our inductive approach meant that the young people's perspectives drove our data analysis; themes were able to emerge from the data in a naturalistic manner, and multiple independent coders reached a high level of thematic agreement. As the only qualitative study of its sort, our study adds rich contextual information to New Zealand literature that highlights an unequal uptake of dental services by Pacific young people.

Although the findings from the study represent only the views of those who contributed in the focus groups, they have already informed the development of future qualitative and quantitative studies. Results from this study informed the development of funding applications to conduct focus groups with Pacific adolescents in Auckland and Invercargill. Other future research could include the development of a survey that quantifies the proportion of Pacific adolescents experiencing the barriers identified in this study. Combining focus group findings from Dunedin, Christchurch, Auckland and Invercargill should enable further clarification via an online survey through the adolescent co-ordination services in District Health Boards. With such data we will be are able to generate a greater understanding of suitable interventions that could be piloted to improve access and reduce barriers specific to Pacific Island young people within the oral health sector.

A key finding of our study was that, for our participants, the importance of image and function overrode concerns about the links between oral and general health or the absence of disease in their understandings of oral health and oral health care. This is perhaps reflective of the egocentric views of this age group, where heightened self-consciousness as a result of social influence plays a crucial role in day-to-day life (Macgregor et al, 1997; Stokes et al, 2006). In our study, concerns about the social consequences

of "bad breath" and "rotten teeth" being detrimental to appearance, and consequently, to the development of peer relationships, overshadowed concerns about the importance of overall health within the oral cavity. This superficial perspective of oral health being associated with cosmetic concerns or appearance is consistent with findings from other national and international research involving young people (Blinkhorn et al, 1983; Craven et al, 1994; Fitzgerald et al, 2004; Børsting et al, 2015; Murray et al, 2015).

Our study participants had a good general knowledge of appropriate oral health behaviours (including brushing twice a day, using floss and mouth rinse, and avoiding sugary food and beverages). They also understood the impact of unhealthy behaviours such as smoking and drinking. Despite this, it was apparent that, in some cases, the participants were failing to carry out oral health promoting behaviours. A mismatch between understanding and behaviour may be attributed to a lack of support during the adolescent transition, since young people are 'incompletely independent' during this period. Conversely, their adoption of unhealthy behaviours such as poor diet, smoking, drinking and irregular dental attendance could occur in response to an emerging autonomy from parental influence (Stokes et al, 2006). Adolescents in general have a tendency to underestimate risks and their susceptibility to disease (Dorri et al, 2009). Participants in our study were able to recognise the consequences of poor oral health, although an awareness of the benefits of engaging in healthy behaviours did not necessarily lead to action. These findings were similar to Fitzgerald et al, (2004), who highlighted Southland adolescents' perceptions of oral health care as being an 'optional extra', and oral health care tasks as non-urgent or not a priority for 'busy' teenagers. Our findings are also consistent with self-reported data collected by Murray et al, 2015, which revealed poor dental attendance by adolescents as largely associated with attitudes around dental visits being unimportant or unnecessary.

Lack of support for participants during their transition into adolescence was apparent both at home and school. In regards to their home environments, the participants reported that their own oral hygiene habits differed to those of their parents (who were reported as 'saying one thing but doing another'). As adolescents establish their independence from parental influence, attention to what 'grown-ups' do rather than what they say may negatively affect the maintenance of habitual healthy behaviours (Sessa and Steinberg, 1991; Waterman, 1993). The apparent differences in hygiene habits between parents and young people can be read as revealing our participants' sense of autonomy, or as an indicator of their likely future behaviours, due to the early influence of parents. Many Pacific young people find it difficult to balance contradictory parental advice and behaviour, and the conflicting pressures and demands of home and societal cultures (Bacal and Jansen, 2010). This was apparent throughout the focus group discussions, where the contrast between parents' oral health care behaviours and advice seemed to cause confusion for many focus group members.

Failure to receive ongoing support at school was another barrier participants recognised as influencing their access to dental services. Participants noted that, at primary school, their dental appointments had been organised through the school. The participants seemed to struggle with taking responsibility for organising their own dental appointments after they left primary school. Perhaps not surprisingly, the uptake of dental services for participants dwindled with age as access became more dependent on their individual actions, demanding independence and personal responsibility (Petersen, 1998). A similarly unfavourable decline in dental service uptake has been noted for Finnish adolescents (Honkala et al; 1997). Furthermore, previous negative experiences associated with the compulsory nature of early dental care (as offered through the primary school dental system) seemed to have adversely affected some of the participants. In the absence of a coordinated system and with more freedom of choice during adolescence, participants who had experienced negative oral health care encounters seemed to avoid utilising publically funded oral health care.

Our study further confirmed the findings of Areai et al, (2011) that private-practice-based, "one size fits all" dental care provision fails to facilitate adolescents' oral health care uptake. Focus group discussion identified barriers to dental attendance as including a perception of dental clinics as scary, uncomfortable and uninformative. Our study suggests that it is crucial for dentists to provide adequate information to young people about the treatment they will receive, and why it is needed. The informed patient, who is educated about treatment procedures and given appropriate explanations by the dental practitioner, is likely to have an increased perception of the value of dental care and the importance of oral hygiene practice (Brown et al, 1999). Pacific-based literature by Bacal and Jansen (2010) affirms that this is especially pertinent to our Pacific Island patients who expect to spend time building a close rapport with medical and dental practitioners. When this does not happen, Pacific patients are likely to develop a negative image of their health practitioner, which in turn can affect their use of the health system (Bacal and Jansen, 2010).

Recommendations by participants emphasised that, in conjunction with the need for more information from dental practitioners, Pacific adolescent patients would benefit from approaches to treatment that further facilitate a more supportive environment in the "scary" dental surgery. Such approaches include the promotion of family/friend support during consultation and treatment along with specific Pacific approach to practice (for example, time taken to build rapport and the use of humour). Encouragement from family and friends is not a new concept; the right to support during treatment is enshrined in New Zealand's 1996 Code of Health and Disability Service Consumers' Rights (Health and Disability Commission 1999). Our study suggests that when young Pacific patients lose the environmental support provided by the structured primary school-dental service system following the transition into adolescence and secondary school, support from family may become particularly

important in supporting their willingness to access appropriate dental care. For example, one participant suggested they would feel more at ease during their dental visit with support from their cousin. The family has a significant role as a basic unit of organisation within Pacific society (Bacal and Jansen, 2010). With individualism less of a focus in Pacific societies than in non-Pacific societies, reciprocal obligations to, and from, the family are very important (Bacal and Jansen, 2010). It is therefore common practice for Pacific patients to want to bring family members along to appointments and/or consult with them before accepting treatment recommendations; some Pacific people may feel threatened or abandoned if their family members are excluded from consultations or procedures (Bacal and Jansen, 2010). General dental practitioners would do well to recognise the importance of family/friend support to Pacific young people, and to proactively welcome patients' access to support during treatment.

As suggested by multiple participants, and in accordance with the Ministry of Health (2003), Pacific adolescents may benefit from specific and more individualised Pacific oral health care services that are provided parallel to mainstream services. With progress being made in the implementation of Māori-based health services (Robson et al, 2011) that are "By Māori For Māori" (Ministry of Health 2003), similar interventions for our fast-growing Pacific youth population may also address the current system's inability to meet the needs of our disadvantaged Pacific groups. The availability of Pacific providers within the New Zealand dental workforce is low and fails to mirror the increasing Pacific Island population (Dental Council of New Zealand, 2010; Crampton et al, 2012). Furthermore, evidence suggests that Pacific people may not feel comfortable being cared for by someone from an unfamiliar background (Ministry of Health, 2003; Bacal and Jansen, 2010). In the absence of a Pacific provider, as recommended in relevant literature and in our focus group discussions, consideration must be given to how the current dental care system can facilitate a supportive and comfortable environment in order to promote Pacific young people's access to, and uptake of, oral health care (Bacal and Jansen, 2010).

Conclusions

While poor dental attendance among adolescents is not a phenomenon restricted to Pacific adolescents, unacceptable ethnic inequalities in dental experience in New Zealand persist among this group and measures are needed that address this. New Zealand Pacific adolescents require ongoing support from school, community, family, friends and dental practitioners to facilitate their uptake of New Zealand's publically funded dental services. The presence of one or more support persons; clear information beforehand; and the provision of a supportive, friendly dental care environment may facilitate Pacific young people's access to dental treatment. Focus group based research that was informed by this study is currently underway in Auckland and Invercargill. Further qualitative and quantitative research is needed to inform our understanding of Pacific adolescents' perceptions and practices in relation to oral health and oral health care.

Acknowledgements

This study was funded by the New Zealand Health Research Council through a Summer Studentship (Pacific Health Research). We are grateful to Dr Tule Misa, who assisted us with setting up the Christchurch focus group interviews and all the young people who took part in the focus groups.

Authors

Alexandra France BDS (year 5)
Associate Professor Lyndie Foster Page BSc BDS DipClinDent MComDent PhD
Sir John Walsh Research Institute
School of Dentistry University of Otago
(corresponding- lyndie.fosterpage@otago.ac.nz)

Zebulun Laqekore BDS (year 4)
Dr Vivienne Anderson DipTchg BEd PGDipArts PhD
Higher Education Development Centre
University of Otago

References

Anae M, Coxon E, Mara D, Wendt-Samu T, Finau C (2001). *Pasifika education research guidelines: Final report.* Wellington: Ministry of Education.

Areai DM, Thomson WM, Foster Page LA, Denny SJ, Crengle S, Clark TC, Ameratunga SN, Koopu PI (2011). Self-reported oral health, dental self-care and dental service use among New Zealand secondary school students: findings from the Youth 07 study. *NZ Dent J* 107:121-126.

Bacal, K., & Jansen, D. (2010). *Best health outcomes for Pacific Peoples: Practice implications.* Medical Council of New Zealand: Wellington.

Blinkhorn AS, Hastings GB, Leathar DS (1983). Attitudes towards dental care among young people in Scotland. *Br Dent J* 155:311-313.

Børsting T, Stanley J, Smith M (2015). Factors influencing the use of oral health services among adolescents in New Zealand. *NZ Dent J* 111:49-57.

Broadbent JM, Thomson WM, Poulton R (2006). Oral Health Beliefs in Adolescence and Oral Health in Young Adulthood. *J Dent Res* 85:339-343.

Brown AD, Mellor AC, Main JR (1999). A survey of patient perceptions of dental charges. *Prim Dental* 6:151-155.

Bullock A (2010). Guest Editorial. Dental education as a social science: some implications for research. *Eur J Dent Educ* 14:65–68.

Burnard P, Gill P, Stewart K, Treasure E, Chadwick B (2008). Analysing and presenting qualitative data. *Br Dent J* 204:429-432.

Crampton P, Weaver N, Howard A (2012). Holding a mirror to society? The socio demographic characteristics of the University of Otago health professional students. *NZ Med J* 125:12-27.

Craven RC, Blinkhorn AS, Schou L (1994). A campaign encouraging dental attendance among adolescents in Scotland: the barriers to behavioural change. *Community Dent Health* 11:131-134.

Dorri M, Sheiham A, Watt RG (2009). Relationship between general hygiene behaviours and oral hygiene behaviours in Iranian adolescents. *Eur J Oral Sciences* 117:407-412.

Dental Council of New Zealand (2010). *2010 Workforce Analysis.* Dental Council of New Zealand: Wellington.

Fitzgerald RP, Thomson WM, Schafer CT, Loose MA (2004). An exploratory qualitative study of Otago adolescents' views of oral health and oral health care. *N Z Dent J* 100:62-71.

Health and Disability Commission (1999). *Code of Health and Disability Services Consumers' Rights*. Health and Disability Commission: Wellington.

Honkala, E., Kuusela, S., Rimpelä, A., Rimpelä, M., & Jokela, J. (1997). Dental services utilization between 1977 and 1995 by Finnish adolescents of different socioeconomic levels. *Community Dent Oral Epidemiol* 25:385-390.

Kassebaum NJ, Bernabe E, Dahiya M, Bhandari B, Murray CJL, Marcenes W (2015). Global burden of untreated caries: a systematic review and meta-regression. *J Dent Res* 94:650-658.

Lawrence HP, Thomson WM, Broadbent JM, Poulton R (2008). Oral health-related quality of life in a birth cohort of 32-year olds. *Community Dent Oral Epidemiol* 36(4): 305-316.

Macgregor IDM, Balding JW, Regis D (1997). Motivation for dental hygiene in adolescents. *Int J Paediatr Dent* 7:43-48.

Manski RJ and Magder LS (1998). Demographics and socioeconomic predictors of dental care utilization. *J Am Dent Assoc* 129:195-200.

Mathison S (1988). Why triangulate? *Educ Res* 17:13-17.

Murray C, Densie IK, Morgan C (2015). Dental attendance, perceptions of cost and self-care of school year 12 and 13 students: A focus on Southland, New Zealand. *N Z Dent J* 111:133-141.

New Zealand Ministry of Health (2003*). Pacific Health in New Zealand – our stories.* Wellington: Ministry of Health.

New Zealand Ministry of Health (2010). *Our Oral Health: Key findings of the 2009 New Zealand Oral Health Survey.* Wellington: Ministry of Health.

New Zealand Ministry of Health (2014). *'Ala Mo'ui: Pathways to Pacific Health and Wellbeing 2014–2018*. Wellington: Ministry of Health.

Parnell W, Scragg R, Wilson N, Schaaf D, Fitzgerald E (2003). *New Zealand Food, New Zealand Children. Key results of the 2002 National Children's Nutrition Survey.* Wellington: Ministry of Health.

Petelo J, Jamieson L, Ayers, K (2004). Oral health and dental attendance patterns of Pacific people in Christchurch, New Zealand. *N Z Dent J* 100:82-87.

Petersen AC (1988). Adolescent development. *Annu Rev Clin Psychol* 39:583-607.

Robson B, Koopu P, Gilmour J, Rameka R, Stuart K, Simmonds S, Purdie G, Davies C, Paine S-J (2011). *Oranga Waha – Oral Health Research Priorities for Māori: low-income adults, kaumātua, and Māori with disabilities, special needs and chronic health conditions*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare.

Sessa, F. M., & Steinberg, L. (1991). Family structure and the development of autonomy during adolescence. *J Early Adolesc* 11:38-55.

Smith AB (2013). A theoretical framework for childhood. In *Childhoods: Growing up in Aotearoa New Zealand.* Higgins N, Freeman C (Eds.). Otago: University Press, pp. 29-43.

Stokes E, Ashcroft A, Platt MJ (2006). Determining Liverpool adolescents' beliefs and attitudes in relation to oral health. *Health Educ Res* 21:192-205.

Thomas DR (2006). A general inductive approach for analyzing qualitative evaluation data. *Am J Eval* 27:237-246.

Thomson WM, Williams SM, Dennison PJ, Peacock DW (2002). Were NZ's structural changes to the welfare state in the early 1990s associated with measurable increase in oral health inequalities among children? *Aust NZ J Public Health* 26:525-530.

Thomson WM, Ayers KMS, Broughton JR (2003). *Child oral health inequalities in New Zealand: A background paper to the Public Health Advisory Committee.* Wellington: National Advisory Committee on Health and Disability.

Thomson WM, Williams SM, Broadbent JM, Poulton R, Locker D (2010). Long-term dental visiting patterns and adult oral health. *J Dent Res* 89:307-311.

Waterman AS (1993). Developmental perspectives on identity formation: From adolescence to adulthood. In: *Ego identity A handbook for psychosocial research.* Marcia JE, Waterman AS, Matteson DR, Archer SL, Orlofsky JL, (Eds.). New York: Springer-Verlag, pp. 42-68.

Watson MR, Manski RJ, and Macek MD (2001). The impact of income on children's and adolescents' preventive dental visits. *J Am Dent Assoc* 132:1580-1587.

Yu SM, Bellamy HA, Schwalberg RH, and Drum MA (2001). Factors associated with use of preventative dental and health services among U.S. adolescents. *J Adoles Health* 29:395-405.