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Pasifika Youth Empowerment Programme: a potential public health approach in tackling obesity-health related issues

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Abstract

In New Zealand, the burden of obesity is greatest among Pacific people. However, targeted prevention strategies among Pacific communities are needed to learn about how to partner with indigenous groups to successfully apply such strategies. The aim of this study was to pilot the Pasifika Youth Empowerment Programme (YEP), which consisted of five interactive learning modules, among 15 Pasifika youth (18–24 years) from Wellington, New Zealand. This article describes the YEP methodology, to understand how to address obesity-related issues for Pasifika youth. At the completion of the YEP, the participants identified three causes of obesity relevant to Pasifika youth and developed preventative action plans targeting these causes: (a) poor diet, (b) lack of education, and (c) lack of physical activity. This study highlights that capacity and capability development of young people in understanding the key issues related to obesity is important to champion culturally acceptable strategies.

Keywords

obesity, participatory action research, capacity building, health education

Introduction

Obesity defined as having a body mass index (BMI) > 30 kg/m^2 is a major public health problem in developed countries (Gortmaker et al., 2011). In New Zealand, obesity disproportionately affects adult Pacific peoples (67%) and New Zealand's indigenous people: Māori (48%), compared to the general population (33%; Ministry of Health, 2015a). A major cause of the increasing obesity prevalence over the last 30 years (Ministry of Health, 2015b) is argued to be the increasingly "obesogenic" environments that have been created (Swinburn, 2008). The obesogenic environment can be broadly described in four ways: (a) physical environment—constituted by the availability and excessive promotion of high energy and dense food; (b) economic environment—represented by commercial incentives and market economies driving over-consumption; (c) socio-cultural environment—created by indigenous beliefs, cultural values, and societal norms; and (d) political environment—organised by national-based strategies for healthy lifestyles (Swinburn, 2008). In general, it has been argued that the obesogenic environment differs in its impact according to the age at which people are first exposed. That is, those in the elderly group who have had limited exposure to obesogenic environments are deemed to be able to maintain dietary habits prior to the changing environment. This is in contrast to young adults who have grown up within these conditions (Reither, Hauser, & Yang, 2009). Furthermore, obesity trends illustrate that those born in recent decades (1990+) are more likely to be obese than those born in the 1930s to 1940s, and these age effects are most evident in Pacific people (Ministry of Health, 2015b).

Current public health research aimed at understanding and addressing the obesity epidemic have focussed on evaluating food and nutrition policies (Swinburn et al., 2013), individual and community interventions targeting healthier food choices, and improving the rates of exercise (Rush

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et al., 2012). The long-term impact of obesity on health is associated with adverse health outcomes (Ministry of Health, 2013); poor nutrition (Ministry of Health, 2012); limited physical activity habits (Ministry of Health, 2014); and, not least, the perpetual obesity risk for the younger generation (Eriksson, Sandboge, Salonen, Kajantie, & Osmond, 2014). We have learnt from our previous work with Pacific people (aged 16–24 years) that living with obesity, in areas of high deprivation, and the obligations of communal demands and family commitments are complex (Firestone et al., 2016). The context in which Pacific people live in New Zealand is unique, and the obesity problem cannot be addressed without considering the complex social and cultural interactions. Our previous research has shown that understanding young peoples' social–cultural realities, particularly as they relate to their personal interests of health could be essential in aiding the planning and development of a sustainable intervention programme (Firestone et al., 2016).

It is critical to reverse the obesity trend for this population group. Not only are they over-represented in poorest outcomes across all areas of health (Ministry of Health, 2015a), Pacific cultures' strong connection with food especially as a marker of successful social interactions (Firestone, 2016) places them at greater risk for long-term conditions, such as diabetes. There is a growing interest and promising results in collaborative approaches, requiring re-organisation of resources to address public health problems and for interventions to be controlled by the communities of interest (Lantz, Viruell-Fuentes, Israel, Softley, & Guzman, 2001). The community-based participatory research approach, which focuses on the social, structural, and physical environmental inequities through active involvement of community members (Israel, Schulz, Parker, & Becker, 2001) is an encouraging approach, in working with indigenous communities. This study describes the implementation of an empowerment framework that was uniquely designed with our research partners: Seed-by-Seed, a non-government organisation in Canada, who have collaborated with the first author in developing the empowerment programme (Seed-by-Seed [NGO], 2015), to build the public health knowledge and capacity of Pacific youth. The approach aligns with the principles of community-based participatory research (Israel et al., 2001) and culturally cohesion (Reason & Bradbury, 2001). There is also encouraging research indicating that working alongside young people who have the potential to enable social and communal changes, because they are aware of the issues, are quick to take up new knowledge (Firestone et al., 2016), and can actively promote positive healthy behaviours (Rush et al., 2012) through their extensive community networks, can be successful. Furthermore, scientists have reported that habitual behaviours (e.g. physical activity behaviour) established earlier in life can have accumulation effects later, in building a future physically active lifestyle that is a long-lasting habit (Hirvensalo & Lintuen, 2011).

This was an exploratory study, and the specific aims of the overall study were to (a) empower young Pasifika peoples' capacity to gain public health knowledge and skills around their behavioural, personal, social, cultural experiences of healthy living and lifestyles; (b) develop the key features of prevention or intervention action plans with the research team; and (c) implement and evaluate the short-term success of the action plans. This article purports to describe the findings and methodological processes of specific aim (Aim a) of the Youth Empowerment Programme (YEP), as it can become a useful public health approach to addressing needs of specific indigenous communities. The translational research component of the study (Aims b and c) is still in progress and will be the subject of a separate article.

Methods

At an individual level, there is limited power to change obesogenic environments. However, individuals and communities can be empowered to change their behaviours and advocate for wider changes. These wider changes ultimately need to include a commitment to structural interventions by the government, because social constructions, such as large corporations who promote unhealthy products, also have a major impact on the health and well-being of Pasifika peoples (Rodriguez, George, & McDonald, 2017). Using the principles of the empowerment education (EE) framework, *listening, action, reflection* (Wallerstein, Sanchez-Merki, & Verlade, 2005), and social change model (Astin & Astin, 1996), an empowerment framework was specifically designed in collaboration with the first author and the Seed-by-Seed research partners (Seed-by-Seed [NGO], 2015). Empowerment programmes aim to involve young people as partners in the decision-making process of a particular intervention (Morton & Montgomery, 2011). The YEP focused on experiential activities that engaged all participants, followed by a facilitated discussion to understand what occurred in the module, what it means, and how this relates to the overall purpose of the programme. The EE principles were selected to guide the empowerment framework, especially to develop the youths' public health knowledge and skills and to build their capacity and capability towards linking individual empowerment to community mobilisation.

The study comprised two phases, but we will only describe the first phase for the purpose of this article. Phase 1 involved: (a) pre-programme questionnaire, (b) interactive learning modules, (c) knowledge integration, and (d) action planning. We obtained a convenience sample of 15 young people, henceforth referred to as, 'Pasifika people', defined as 18–24 years, recruited from our community networks, in Wellington, New Zealand. This convenience sample is a non-probability sampling approach, which is made up of university students where Pasifika students were easily accessible and of the relevant age for the study. The sample size was sufficient to achieve the exploratory aims of the study, to build an understanding of the YEP. From our prior experience, working with these numbers in this context was feasible for a study of this nature (Firestone et al., 2016). Prior to the start of the YEP project, we

Table 1. Understanding the knowledge-base of healthier living among Pasifika youth (pre-YEP).

Healthier living		Leadership skills		Understanding community issues	
	% (*n*)		% (*n*)		% (*n*)
Are you passionate about healthier living?		To build confidence		I have an understanding of the issues in my community	
1	0	1	0	1	0
2	0	2	0	2	16.7 (2)
3	25 (3)	3	7.6 (1)	3	0
4	16.7 (2)	4	23 (3)	4	66.7 (8)
5	58.3 (7)	5	61.5 (8)	5	16.7 (2)
Is there a need for education healthier living?		To learn skills to manage conflict-resolution with peers		I have an understanding of the global issues	
1	0	1	0	1	0
2	0	2	0	2	8.3 (1)
3	15.4 (2)	3	0	3	23.1 (3)
4	38.5 (5)	4	7.7 (1)	4	41.7 (5)
5	46.2 (6)	5	91.7 (11)	5	25 (3)
Are you interested in taking action of the issues?		Learning how to work cooperatively in a group setting		I am motivated to learn about local and global issues	
1	0	1	0	1	0
2	0	2	0	2	0
3	23.1 (3)	3	0	3	8.3 (1)
4	30.7 (4)	4	16.7 (2)	4	41.7 (5)
5	53.8 (7)	5	83.3 (10)	5	50 (6)
		Youth potential to make a difference in healthier livings		I want to learn about social justice issues of my community	
		1	0	1	0
		2	0	2	0
		3	15.4 (2)	3	14.2 (2)
		4	30.8 (4)	4	42.9 (6)
		5	53.8 (7)	5	42.9 (6)
		Self-confidence to contribute to group success		I want to participate in community action programme	
		1	0	1	0
		2	0	2	0
		3	16.7 (2)	3	14.2 (2)
		4	41.7 (5)	4	42.9 (6)
		5	41.7 (5)	5	42.9 (6)
		Build confident leadership skills			
		1	0		
		2	0		
		3	25 (3)		
		4	41.7 (5)		
		5	33.3 (4)		

recruited three Pasifika facilitators, who were trained extensively by our research partners (Seed-by-Seed [NGO], 2015), to carry out the interactive learning modular components of the YEP:

1. Pre-programme questionnaire: Participants completed a pre-programme questionnaire to obtain an understanding of their knowledge base of the issues around healthy living; leadership skills; and an understanding of community issues, attitude, knowledge, and what they hoped to get out of the YEP prior to the start of the programme. The responses to the questions were: "strongly disagree" or "disagree" or "neutral" or "agree" or "strongly agree". Typical of Likert scale analyses, we have opted to present pragmatic findings by presenting the summation of scores per question as a percentage in Table 1. Since the number of study participants was small, we could not carry out analytical analyses, as this would provide less meaningful information.
2. Interactive learning modules: The youth met at a central location every week for 2 to 2.5 hr over the course of 8 months, where they acquired skills and knowledge developed through the following five key modules:
   (a) *Leadership qualities*: The module explored different concepts of leadership and encouraged

the participants to identify their strengths and weaknesses. We used the Social Change Model of Leadership (Astin et al., 1996), because it encouraged participatory non-hierarchical leadership, and it aims to establish a mindset among young that they can be a catalyst for social change. The four leadership styles are described according to the following qualities: *North leadership qualities*—likes to complete things, has courage, a risk-taker, interested in new ideas, can be persuasive, motivates others with their energy, is methodical, and delegates tasks for others to carry out; *South leadership qualities*—works well within a group context, provides support to others, is typically regarded as trustworthy and friendly in nature, dedicated to work, and stands up for justice and equality; *East leadership qualities*—approach to work is typically based on intuition, understands the "big picture" of a plan, is driven by goals and a vision statement, characterised as having excellent social skills, innovative and creative, and confidently shares his or her own opinions in consultation with others; and *West leadership qualities*—works in a methodical and analytical manner, approach to tasks is typically based on factual knowledge, tends to investigate all angles of a problem before taking action, accepts new ideas if there is a practical pay-off, and characterised as being pragmatic when working in a group context.

(b) *Navigating a grocery store*: This involved a fieldtrip to the local shopping centre to explore different food prices, observe how products were presented, and product branding. We allocated teams of youth to hypothetically purchase food for their family, given a certain criterion. As this module was a practical fieldtrip, the research team gathered qualitative data from the group discussions before and after the practicum, as a means of examining the knowledge and skills acquired through this process.

(c) *Community kitchen 101*: This was created by co-authors (Seed-by-Seed), based on their professional experience working with young people and families in Canada. The focus of this module was to empower young people to prepare a meal and cook with their peers, as a way to develop food-related knowledge and skills. The module involved the participants preparing and consuming a vegetarian meal together. There were several work stations of preparing the vegetable dishes (guacamole, tomato salsa, cheese grating, and washing and seasoning the black beans), and setting up the table for a group meal. The research team had collated written notes from the study participants' post-modular discussion. We will use this information (including quotes to illustrate points) to examine the knowledge-building and skill-uptake from this particular module.

(d) *Knowledge integration*: As part of understanding the root causes of obesity, information will be presented on the overall health status of Pasifika people, compared to the general population in New Zealand, including obesity-related statistics (Ministry of Health, 2015a), and an overview of the social determinants of health which provided the foundation of examining proximal and distal factors of the obesogenic environment, developed by Durie (2002). Based on the group discussions and feedback from the research facilitators, the common themes were explored and identified against a three-tiered analyses (see Table 2). The participants initially brainstormed their ideas on the causes of obesity and then grouped them according to the three levels (see below for description). We have refined the categories by coding similar issues or nuances according to the main themes. This process was necessary as it was important to understand "why" Pasifika youth held such beliefs or views about the causes of obesity. By identifying the main themes, this process provided knowledge to improve the cultural appropriateness and effectiveness of how to address health inequalities of obesity-related issues. It was consensually agreed by the group that the table presents obesity as a complex health issue affecting multiple levels and players, as well as the inclusion of the role of culture and how culture can influence mindset and lifestyle behaviours.

(e) *Action planning*: This module collectively builds on the participants' knowledge developed through the YEP and adjoins individual and collective talents of skills and passions with specific obesity health-related issues linked with the knowledge integration module. In examining the action planning module, based on the research teams' notes, once several action plans were identified and drafted, the participants went through a step-by-step process, eliminating those action plans that were grandiose and, or impractical in nature, to including only those that were achievable and realistic for the limited timeframe of the next phase of the project (3 months).

Results

Phase 1: pre-evaluation of the YEP project

A total of 12 (of the original 15) Pasifika participants undertook the 8-month-long empowerment programme. A total of two participants had to drop out due to personal reasons and one left the country. The Pasifika youth who participated in this project were aged between 19 and 24 years,

Table 2. Exploring the causes of obesity.

Symptomatic-level issues	Systemic-level issues	Root cause–level issues
Body image	Socio-economic	Individual level
– Large body size—"big is beautiful"	– Poor socio-economic position	– Negative mindset
– Cultural image—acceptable	– Low income: "can't afford to buy good food"	– Poor or low self-esteem: "I'm fat" and "I'm ugly"
– Fat people	– Low-level occupations	– Psychological–emotional stress
Health status	– No money	– predisposition—genetics
– Childhood obesity levels increasing	– Poor budgeting	– Perception based on cultural upbringing of lifestyle factors
– Hear about gout in the family	Political	– Lack of education
– Know about diabetes in the family	– GST tax on food	– Poor sleep and health practices
– Family members have heart disease problems	– Poor social welfare system: "lack of care" and "no social support"	– Societal level
Globalisation	– Socio-cultural	– Environmental issues: "pollution of natural resources"
– Social marketing—targeting young	– Cultural norms	– Greed—rich get richer; poverty—poor get poorer
– Cheap food—tastier	– Social marketing "tv ads"	– Socio-economic issues: "poverty"
– More fast food	– Lack of knowledge	– Cultural norms: "my upbringing affects how I live my life"
– Easy accessibility to cheap and fast food	– Lack of exercise	Institutional level
Food security issues		– Limited education and knowledge
– Limited natural food resources		– Way of life—"stuck in this cycle-hard to break"
Behavioural issues		– Poverty—"social influence of income on happiness"
– Lack of knowledge		
– Laziness		
– Lack of exercise		
– Related to mood		
– Stress related		
– Depression		
– Social life		
Food		
– Quick-fix meals, for example, 2-min noodles		
– Socialisation around food: "the more the merrier" and "more food makes you feel loved"		
– Large quantities		
– Carbohydrate-dense meals		

with the average age being 20 years old. There were seven female and five male participants; eight self-identified as Samoan, three as Tongan and one as Cook Island Maori. The pre-programme questionnaire was carried out at the first meeting to ascertain participant expectations of the programme with regard to developing a knowledge base of the issues (Table 1) around: (a) healthy living (Column 1), (b) leaderships skills (Column 2), and (c) understanding of community issues (Column 3). The results are presented as percentages. Across all three knowledge-based areas, the participants responded predominantly with "agree" and "strongly agree". This is a positive indicator of Pasifika youth establishing a heightened awareness and motivation to build capacity and capability in the area of public health.

In Table 1, Column 1 data show that there is a need to build knowledge and understanding of obesity and healthy living as important key issues among the study participants and that they indicated a high level of commitment to learn and to take an active role in leading community activities around healthier living. Column 2 data indicated high percentage scores on particular skills such as building confidence, learning how to work with groups of individuals, dealing with conflict resolutions, as well as developing an attitude that youth can play an important role in mobilising their communities to healthier living. Interestingly, Column 3 findings showed that Pasifika youth highly rated the need to become more aware of and, participate in social justice issues that are relevant for Pasifika communities, and to participate in community activities that target these issues.

Empowerment framework

Some of the key modules of the empowerment framework are worth noting here, because of their main impact on developing knowledge and enabling the youth to activate groups or communities into social action.

First, the *Leadership Module* was founded by Baum and Hassinger (2002), who created the model with "a behavioural interpretation of a philosophical and indigenous approach" in mind. The module enabled participants to conceptualise leadership as a "process" rather than a position or status, which aligns to the Social Change Model approach (Astin & Astin, 1996). This concept of leadership is not analogous in Pasifika cultures; however, the module was important to establish a change in mindset of the youth that enabled them to think about their role in activating communities to improve healthy living. The module also demonstrated that leadership styles are situational and, therefore, people modify their styles according to the context and environment (Astin & Astin, 1996). Furthermore, the module prompted the participants to consider various scenarios linked to their perceived strengths and weaknesses, and the scores navigated towards a balanced leadership type that was based on the individual's self-awareness of their work style and approach to performance and success in life. Of particular interest, all of the Pasifika youth in this group aligned themselves according to the "South" leadership type, apart from one participant (West leadership type). This was not unexpected, as the qualities of the South leadership type aligns well with Pasifika values and culture of being nurturing, supportive, and showing humility and loyalty to the family and the community. By identifying the participants' leadership style, it provided an understanding of the qualities and challenges associated with each person. Furthermore, by acknowledging that leadership is a process, the participants also understood that their style may change and/or develop according to how they progress through different challenge scenarios. From discussion with the study participants, developing leadership skills builds individual awareness and helped the teams to carry out effective action planning based on individual skillsets. A key learning was that diverse groups with varying individual capabilities provided the strongest foundation for leadership.

The second module *Navigating a grocery store* was described by most participants as an "eye-opening" experience. Participants were grouped into hypothetical Pasifika family profiles: (a) family of five—working parents, three teenage boys, with a net budget of US$150.00 for groceries a week; (b) power couple—business owners, no children, one family pet, and both earn a higher than average salary; and (c) one big family—working parents, one grandparent who does all the cooking, and four children, age ranged from 14 months to 17 years old. Every week, the extended family always visited in the weekend, and they shared a big meal together on Sundays. They had a budget of US$250.00 a week. The groups were tasked to plan their weekly groceries based on their given family profile and go to the local grocery store and hypothetically purchase food, documenting the cost of and branded food that was purchased. The follow-up discussion highlighted some interesting points from the participants:

Navigating the grocery store has enhanced the participants' awareness of "where" food had been strategically placed in the store and "how" cheaper food were given more public promotion:

Participant (female, 24 years):

And also like the supermarket thing—I literally just go around now, . . . what I mean is . . . I just go straight there [to find the food they need] . . . the key one was . . . that the essentials are just found straight away. The chocolates are found on the end of the aisle, so like when I go to [grocery store], I just go and grab my milk and my bread and I just go pass all that other stuff [junk food] . . . .

The group agreed with what this participant had reported, because they had become more aware that food like chocolates or chips were placed at the end of the aisles where people can view them more closely without the extra food and brandings.

This module also had a positive effect on planning and budgeting:

Participant (female, 21 years):

. . . I don't buy any unnecessary thing that I don't need, . . . so now I just go that's for breakfast and that's for lunch . . . I think it saves money when you don't buy unnecessary stuff . . . but you just get what you need.

Another participant agrees and added (female, 21 years):

Yeah we've been really strict lately like instead of buying chocolate we would just put more healthier bread [in], and we find that we are full, like we don't need anything else to feed us . . . . .

There was a general consensus that this module had not only enlightened their perspective on how cheap food was marketed, and how certain food are strategically placed within the store environment. It also allowed them to think more carefully about planning and budgeting for food that were considered a necessity, allowing them to be more financially stable in their expenditure. They also revealed that they appreciated the efforts of their parents in budgeting and planning for Pasifika families and having to opt for the cheaper branding of food to cater for larger families.

The third module *Community kitchen 101* had provided useful insights that describe the current realities of the study participants. For example, not all participants lived at home as the majority of them were tertiary-level students. The key themes that have arisen from our notes from the groups' discussion were (a) preparing and cooking a meal brings about "togetherness", and this was highly favourable, because more effort was put into making savings when purchasing and preparing food for the meal; (b) the cooking module exposed participants to different food such as non-familiar vegetables (e.g. beans and guacamole) and different types of herbs; and (c) the participants immediately generalised the knowledge and skills acquired from this

module in their home setting, which highlights how pragmatic this module was for our youth.

The fourth module *Knowledge integration* required the participants to build on the knowledge developed from learning about Pasifika health status in New Zealand, and historical–social–cultural determinants of health, with their own personal views and experiences of obesity. This knowledge-building module examines the multilevel causes of obesity (as described earlier). The common themes were identified according to the participants' exploratory brainstorming and three-tiered analyses, listed in Table 2. The initial level of exploring the cause analyses involved brainstorming a plethora of issues related to obesity, built on the health status knowledge presentation, personal experiences, and inferences. The next level of root cause analyses required the participants to examine the initial issues and then to stratify them across three levels: (a) *symptomatic-level issues*: what people physically view as obesity-related issues; (b) *systemic-level issues*: environmental or structural issues, such as the lack of obesity control policies; and (c) *deep-rooted issues*: those that are considered to be hidden and resilient (e.g. cultural practices) and potentially non-modifiable factors (e.g. genetic variants). This module was important, as it was linked to key action plans.

The final key module, *Action planning*, is directly linked to the findings of the participants' examination of the root causes of obesity, as a basis for formulating the action planning. The youth collectively agreed on the three most important causes of obesity health-related issues for Pasifika people, which were (a) lack of education on health and well-being, (b) poor diet, and (c) lack of physical activity. By identifying these three interlinked causes of obesity, the participants independently grouped themselves into one of the three identified causes, based on their area of passion. They combined their personal talents, skills, and passions relating to their chosen topic. Part of the action planning required them to think about how to bring about social change as part of their action plans and addressing their selected issue according to one or more pillars of social change: fundraising, improving knowledge and awareness, political change, and instigating behavioural changes (Baum & Hassinger, 2002).

As a result, three action plans were developed: (a) *The lack of education group*—the participants developed a short version of the YEP by identifying some of the pertinent modules from their perspective that would be beneficial and feasible within a church or local youth group environment. The modules that were compiled into a booklet were as follows: Health status of Pacific people in New Zealand, Navigating the grocery store, Community kitchen 101, Examining Knowledge integration of the root causes of obesity, and Action planning. This group met and consulted with several Pasifika and community groups to gauge the community's receptivity to their action plans. As a result, it was well received, and we are currently developing the lines of action with several communities and other key stakeholders. (b) *The lack of physical activity group* decided to collaborate with the education group, and the members developed a specific module that targeted physical activity and understanding heart health, including the ability to measure and understand blood pressure test results, since this is a universal test used across many health settings. This module was added to the proposed modified YEP materials. Collectively, these two groups targeted improving education and knowledge as the focussed social pillars of change. (c) The poor diet group (called "Ai ia e ola", "eat to live") developed a social media campaign to break the cycle of poor eating habits, with the aim: ". . . *to raise awareness on nutrition amongst our Pacific community, and for people to start thinking about the effects of poor dieting*". The group established a Facebook page which has several hundred followers. Daily dietary tips are posted (e.g. drinking water is healthier and free), along with a monthly focus (e.g. Jumpstart June). They would also post about the value and benefits of some food, for example, how to prepare daily home-made smoothies that are nutritious and cost-effective. Compared to the other action plans, this group was considered to be the most successful, because they were self-sustainable in progressing their action plan.

Discussion

Our main finding is that young Pasifika people who undertook the empowerment programme deepened their knowledge of the obesity-related issues in general and realised the wider implications of obesity for Pacific people. In doing so, they also developed skills and motivation to develop action plans targeting their communities, primarily based on their perceived analyses of obesity. There are several points about our main finding that warrant further discussion.

First, the inclusion of an empowerment framework as the bedrock for developing prevention and interventions is not a common public health approach, yet it appears to be very relevant for certain population groups. For this study, it worked well for young Pasifika peoples. Other studies that have included an overall or partial component of an empowerment framework have reported findings that support the idea that applied knowledge (e.g. food literacy skills; Thomas & Irwin, 2013) and teaching skills (e.g. cooking skills by chefs; Thomas & Irwin, 2011) are useful for young adults and at-risk groups. There is emerging international research in the area of community-based cooking programmes to improve food literacy skills among young people (Flego et al., 2013, 2014), with new work emphasising the impact of such programmes that highlighted family meals and cooking together as key strategies for the prevention of obesity (Kramer et al., 2012; Thomas & Irwin, 2011, 2013). In our study, co-authors D.P. and M.H. developed modules based on the literature (Flego et al., 2013, 2014; Kramer et al., 2012; Thomas & Irwin, 2011, 2013) combined with their own professional experiences in working with young people. The findings described from our participants suggest that empowering young people through education, developing knowledge and skills in health is important in changing their attitude towards healthier living. Moreover, understanding the key barriers

and enablers of health for their families and communities' aids in driving the motivation to develop relevant action plans. Developing positive attitudes towards and education of healthier living was an overwhelming drive for the participants in this study, as indicated by the pre-empowerment programme questionnaire (Table 1). In addition, skills such as building confidence, managing conflict resolutions, working cooperatively, and developing leadership capacity were catalysts of change for the young people in this project (Table 1), resulting in the propensity to develop and refine their action plans as part of the empowerment process. It is important to note that this is not a "new" finding to obesity knowledge base, rather our study highlights the need for health interventions to be inclusive of capacity and capability development among the participants.

Second, interventions that involve participants as equal partners of the research process (design and implementation) are becoming more relevant and pragmatic in public health research today. For this study, young Pasifika people were targeted because they have the highest prevalence of obesity compared to the general population (Ministry of Health, 2015a), they have had the most exposure to the obesogenic environment (Ministry of Health, 2015b), and the risk factors for long-term chronic diseases (e.g. prediabetes) are highly preventable at a younger age and through good lifestyle practices (Habour Sport, 2015; Wood & Johnson, 2016). There is encouraging international research on youth-led intervention programmes (Llauradó et al., 2015), where young people have direct involvement in the planning of projects and those that are successful tend to include the youths' perspectives on health (Kohlstadt et al., 2015). It was evident from this study that developing and shaping the participants' views of the potentially different causes of obesity was a pivotal exercise (Table 2). It was at this point of the study that participants exhibited the collective learning's from the previous modules and began building the skeletal framework of a prevention or intervention plan. The current study aligns to the work of Kohlstadt's et al. (2015) and Llauradó et al. (2015). However, it includes empowering and supporting young people to enable behavioural changes for healthier living, knowledge development of social justice issues, and building up their skills to take ownership of their health and lifestyle. Collectively, this may lead to better acceptability of an intervention, particularly among an at-risk or a specific indigenous group. The action group, "Ai ia e ola", is a good example of this point, yet much is still to be learned on how to improve this particular research approach and enhance health outcomes for Pasifika peoples and other at-risk groups.

Finally, there is a growing, yet a diverse approach to obesity interventions, with a specific focus on the economically deprived and/or vulnerable groups (Dobson et al., 2015; Flego et al., 2014; Garrett et al., 2011; Kaholokula et al., 2014, 2015; Llauradó et al., 2015). Interventions that focus on increasing awareness of obesity-related behaviours failed to tackle how to change attitudes and behaviours (Currie et al., 2015). Where specific populations exhibit a disproportionate burden of obesity, such as Pacific peoples, tailoring interventions to prevent the perpetual risk has never been an easy task. Our study differs from the conventional approach where the research investment involves specific at-risk behaviours (e.g. dietary intake and/or physical activity; Rush et al., 2012, 2014; Taylor & et al., 2012; Teevale, 2009; Thomas & Irwin, 2011), rather our approach includes a strong component of understanding the social–cultural realities of Pasifika peoples, in order to tailor an intervention strategy that fits with cultural values and protocols. However, it is yet to be determined whether tailoring such approaches enhances uptake and continued use of an intervention by the targeted population. This would be an important area for future studies to explore, and if such an approach is successful, how tailoring the intervention to fit within the parameters of a particular culture will be of great importance and informative, for other indigenous and priority groups.

Conclusion

Obesity is a major risk factor for the development of many long-term conditions, and this is particularly the case for Pasifika peoples in New Zealand (Ministry of Health, 2015a). Our YEP is centred on building knowledge and understanding of the health issues for Pasifika peoples, as well as developing skills in understanding the obesogenic environments, and working closely with the younger generation to develop culturally relevant preventions and interventions. Empowerment frameworks could be an important addition to public health intervention design and planning, because it is useful, relevant, and can be tailored to a specific groups' needs, with the view of preventing disease in the future. This approach appears to work well for young Pasifika peoples in our study, yet there is much to be learnt from this emergent area of research.

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