

Food Literacy:

What does Food Literacy mean for
Samoan families?

Hoy Neng Wong Soon
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Samoan families?



Hoy Neng Wong Soon

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgments), nor material which to a substantial extent, has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Signed..... 

Date.....09 December 2016.....

Dedication

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Abstract

The alarming incidence of obesity rates has reached epidemic proportions, turning into a major health challenge worldwide, and New Zealand is no exception. Despite healthcare providers' best efforts, obesity still affects all people of all ages and ethnicities. Pasefika peoples, including Samoans, reportedly have the highest rates of obesity and face more health disparities, compared to their European counterparts. The increasing burden of health issues such as poor nutrition, sedentary lifestyles and obesity have very much impacted on the increase of noncommunicable diseases (NCDs) such as cardiovascular disease, diabetes and some cancers (Rush, Freitas, & Plank, 2009). The incidence of Type 2 Diabetes (T2DM) has more than doubled in New Zealand and Pasefika populace have one of the highest rates. There has been an increasing number of health initiatives focusing on 'healthy eating' to counter the increasing incidence of obesity. People in the most deprived socioeconomic segment of society have diets high in sugar, salt and saturated fats, which cost less and are easy to access. The majority of Pasefika populations reside in poor areas (Ministry of Health [MOH], 2014a). Past studies found the poor socioeconomic status of populations correlated with health disparities. Pasefika peoples, including Samoans are included in these statistics. In Pasefika cultures, including Samoan, food is not just about physical nourishment but plays a major role in the cultural identity and interconnectedness of people in the community. If food and lifestyle choices are implicated in the high rate of NCDs affecting Pasefika peoples, there is a need to understand their beliefs with regard to food. This study used a qualitative Delphi-Talanoa design involving two rounds of interviews, to explore the question "what does food literacy mean for families; three

generations of Samoan women in five families?” *Talanoa* was used to capture the views of three generations (grandmother, daughter and granddaughter) of Samoan women from five South Auckland families, on their understanding of food literacy. Participants were recruited using the snowball method. The *talanoa* sessions were held in English and Samoan; recordings were transcribed and back-translated to English. The NVivo11 software system was used for thematic analysis. Findings identified the significant role of the ‘mother’ in the families and her influence on the family meals. Granddaughters had some influence on family meals, but not as much as the grandmothers. The latter influenced the type of meals prepared by the daughters, by stating their preference for certain foods. Health professionals such as midwives and family doctors played a major role in improving the participants’ knowledge of food and related information. Moreover, community health programmes also enabled participants to make more informed decisions on their food choices and lifestyle practices. Participants stated that they would prefer Samoan to be used during consultations and have more of health professionals to speak Samoan. They felt this would also be an advantage to help improve Samoan people’s understanding of food and related matters. The findings confirmed the importance of social settings that Samoans affiliate with, such as sports club, school alumni and village subcommittees. These social networks should be considered for future interventions.

It is hoped that the conclusions from this study add to the body of knowledge and form the basis for future planning for health interventions for our Pasefika and Samoan populations.

Chapter 1: Introduction and Background

1.1 Introduction

This chapter will look at nutrition in general, global food systems, obesity and measurements thereof moving on to cultural views in relation to health and food, specifically those of Pasefika people in New Zealand.

1.2 Food and Nutrition

Food is one of the fundamental necessities of life. Mann and Truswell (2012) argue that our food provides essential nutrients for our sustenance and for us to be able to function. Food is vital for human development and growth, from foetal development right up to the years of childhood and adulthood. A growing body of research (Ministry of Health [MOH], 2012; Rush et al., 2009; World Health Organization [WHO], 2015b) underlines the importance of the balance of nutrients that food provides because our bodies need energy and nutrients for metabolic and physiological functioning, muscular activity, growth, repair and the production of new tissues. The abovementioned reports also highlight the importance of how a good dietary intake, along with physical activity, can help prolong a healthy life.

1.3 Food and Nutrition: from a global view

The WHO (2015b) advises that our dietary intake should encompass an adequate and well-balanced selection of foods, and be combined with regular physical activity. These form the foundation of our good health.

Mann and Truswell (2012) provide solid evidence of our need of important nutrients from wholesome foods for growth and development throughout the course of our life. Undeniably, humans 'eat' because they need to maintain good health and also because food is a part of their lifestyle (WHO, 2015a). In all cultures, eating revolves around sharing food with others. Furthermore, nutritional epidemiologists (Alkerwi, Sauvageot, Malan, Shivappa, & Hébert, 2015; Rush et al., 2009) have explained how a balance in nutrition is essential for good health. However, most of the population worldwide now has poor dietary intake; their food lacks adequate quantities and balance in essential nutrients. Moreover, food has become the demise of many people due to over-indulgence in processed food that are high in salt or sugar, or/and fat. This has led to a growing incidence of issues related to poor dietary intake, as I will explain below.

1.4 Global food system

Swinburn and colleagues (2011) hold that the ever-increasing rise in global obesity rates is associated with the changes in the global food system. Our food system has substantially changed over the decades and economies have become interdependent in terms of food production and trading (Rush & Bristow, 2012). Globalisation and advanced technology have become major operational mechanisms which have channelled the increase of these worldwide changes. These 'globalised changes' include the production, affordability and easy accessibility of processed foods that are high in energy, fat, sugar and salt and low in fibre, protein and fruit and vegetables (Crino, Sacks, Vandevijvere, Swinburn, & Neal, 2015; Friel & Ford, 2015). Moreover, Swinburn, Sacks, et al. (2011) and Rush, Puniani,

Snowling, and Paterson (2007) suggest that populations around the world have continued to favour low-cost 'cheap' and 'empty' caloric foods because of heavy advertising and marketing promotions. The aforesaid vast body of obesity research acknowledges the significant role that the globalised food industry and food systems has played in 'fuelling' the pervasiveness of obesity.

1.5 Body Mass Index (BMI)

Body mass index (BMI) was originally used as a measure of adiposity to be used as an index of obesity around the world. This measurement has been applied to European (Caucasians) population studies to classify obesity in adults and it is a simple anthropometric measurement of weight in kilograms (kg) that is divided by the person's height in meters squared (m^2) (WHO, 2015b). According to the WHO (2015c), adults should have a BMI of 18.5 to 24.9 kg/m^2 . The proxy assessment for obesity has been used internationally for many years to classify the different categories of obesity and to identify the risks of co-morbidities that are associated with it (Ashwell, Gunn, & Gibson, 2012; Rush et al., 2009). According to the 2014-2015 national health survey, 66% of Pacific adults in New Zealand have a BMI greater than 30 $kg.m^2$ while 30% of Pacific children are obese (MOH, 2015a). This is an alarming statistics as it is affecting the most deprived Pacific communities (including Samoans) and it is an indication of increasing risk of further health complications for these minority populations in New Zealand. There is a strong correlation between the high incidence of obesity rates and the socioeconomic deprivation within communities (MOH, 2014b).

As stated, a growing body of evidence suggests that BMI by itself is not sufficient as a yardstick of obesity, with Rush and colleagues (2009, p. 632) arguing that it is in fact a “surrogate measure of obesity”. There are still debates on which is the best screening method for overweight and obesity, and a number of scholars have argued that waist-to-height ratio (WHtR) and abdominal circumference (WC) are more adequate measures than BMI (S. Duncan, Duncan, & Schofield, 2009; Rush, Goedecke, et al., 2007). Several epidemiologists suggest that different ethnic groups have different fat to muscle ratios. These arguments support the notion that ‘One size does not fit all’ and evidently, Pasesfika peoples are a good example of this as they have proportionally more bone mass and muscle tissue, than some other ethnic groups (Rush et al., 2009; Rush et al., 2004). This seems to indicate that individuals of Pasesfika descent need to be classified separately from the general population. Pasesfika people (adults) are known to have less body fat percentage in comparison with their European counterparts. Swinburn, Ley, Carmichael, and Plank (1999) propose a BMI of 26-32kg/m² as an index of overweight in the adult Pasesfika population, and with a BMI of >32kg/m² as an index of obesity in this population. On a population basis increasing body size is associated with higher health risk such as Type 2 Diabetes (T2D), cardiovascular diseases (CVDs), including some cancers and shortened life span (Rush et al., 2009; H. Wang et al., 2016).

This is relevant to this thesis because my participants are of Samoan descent and this community needs to understand the importance of having the recommended body weight

for each individual and how their weight is linked to their dietary intake and lifestyle practices.

1.6 Obesity, quality and quantity of foods eaten – predictors of morbidity and mortality

1.6.1 A global threat

Adverse health disorders are associated with dietary and lifestyle choices. Rush and colleagues hold that obesity is inherently understood as a “condition of excessive fat accumulation” (2009, p. 632). Obesity was once associated with affluent countries, however, with the increasing numbers of global migration and economic dependency, obesity is now prevalent in low and middle-income countries (Lobstein et al., 2015; Swinburn, Millar, et al., 2011). Reports revealed a high number of mortalities from noncommunicable diseases (NCDs) mortalities, at 38 million in 2012. This annual mortality rate is predicted to rise to 52 million by the year 2030 (WHO, 2008). Moreover, 48% of the 2012 NCDs deaths occurred in low and middle income countries and affected people before the age of 70 years. Globally more than half a billion of the young population aged 18 years and older are obese (WHO, 2015c). The same report revealed that women were more likely to be obese than men, something which was evident in many global regions. Women are more likely to be responsible for food planning, selection and preparation for their families – they are the gatekeepers but also might ensure their husband and children receive better food than themselves.

1.6.2 A challenge in New Zealand and a predicament for Pasefika peoples

The global obesity threat and its adverse affects are also affecting New Zealand. New Zealand people are getting bigger in body size. MOH reports (2014a, 2014c, 2015b) describe the prevalence of obesity and its adverse health impact on the New Zealand population throughout the years.

Pasefika peoples make up 7.4% of the total New Zealand population (Statistics New Zealand, 2014) and face the worst of the obesity dilemma. Scholars have widely documented the worsening health status of Pasefika peoples (Borrows, Williams, Schluter, Paterson, & Helu, 2010), chronic disease patterns affecting them, and the link between their socioeconomic status and health condition. The Pasefika population in New Zealand has gradually increased throughout the years by migration and birth rate (Table 1.1). This relatively young population are thus facing a high prevalence of obesity and lifestyle-related health problems.

According to the MOH report (2015b), Pasefika adults had the highest rates of obesity of the overall New Zealand population. Additionally, the rate of obese Pasefika females (68%) was higher than that of Pasefika males (61%). This indicates that Pasefika peoples are more susceptible to obesity-related problems than other ethnic groups, with females possibly more predisposed to chronic disorders than the males because they are more likely to be obese. Worldwide New Zealand is the third most obese country as regards its adult population (OECD, 2014), and according to MOH reports (2014b, 2015a) Pasefika adults

(66%) had the highest obesity rates, followed by Maori adults (46%), compared to the general population (31%).

Researchers are not only reporting the obesity-related impact on Pasefika adults but also highlighting the high levels of obesity among the younger Pasefika populations, including children (E. Duncan, Schofield, Duncan, Kolt, & Rush, 2004; Rush, Obolonkin, & Savila, 2013). Studies from New Zealand and overseas have discussed parental influence on children's health. Researchers have shown that parents play a key role in children's eating habits (Flores, Maldonado, & Durán, 2012; Parada, Ayala, Horton, Ibarra, & Arredondo, 2016). Parental and familial influences on children's dietary intake have been encouraged to promote children's healthier lifestyle choices. Good dietary practices from early years of life and maintaining these practices throughout the years to reduce the risk of lifestyle-related disorders later in adulthood.

However, Rosenkranz and Dzewaltowski (2008) argue that although parents and families contribute to the children's eating and lifestyle habits, the home food environment should also be considered as a factor influencing children's eating and lifestyle-related behaviours. Irrespective of who or what influences children's eating behaviour, the previously mentioned researchers agree on the obesity problem affecting all age groups. Obesity rate is escalating and it is predicted that the numbers of overweight and obese children will continue to increase.

Given that OECD statistics are showing New Zealand as the third most obese nation worldwide, it shows that Pasefika populations are adding up to these numbers and thus represented in these global records (OECD, 2014). Moreover, Pasefika populations reside in the most socioeconomically deprived areas (Tukuitonga, 2013). There is obviously a link between the previously mentioned socio-environmental factors and being of Pasefika descent. Rush et al. (2013) argue that this has almost certainly played a crucial role in the lower life-expectancy of all the Pasefika populations in New Zealand. Samoans make up almost half of the Pacific population in New Zealand (Table 1.1).

Table 1.1 Pacific peoples ethnic groups

Ethnic groups	2006 Census	2013 Census	2013 %
Samoan	131,100	144,138	46%
Cook Islands Maori	58,011	61,839	20%
Tongan	50,478	60,333	19%
Niuean	22,473	23,883	8%
Fijian	9,861	14,445	5%
Tokelauan	6,819	7,176	2%

(Six largest Pasefika populations, growing number of Pasefika peoples from the 2006 Census to the 2013 Census. (Statistics New Zealand, 2008, 2014)

Having outlined the importance of food literacy and healthy nutritional and lifestyle behaviours for Pasefika people and general, I will now outline the structure of this thesis.

1.7 Significance of study

My decision to carry out this study stemmed from both personal and professional experiences: my personal experience of being my mother's fulltime caregiver since 2005 to early 2014, and being a Samoan interpreter for Waitemata District Health Board since 2011.

I was introduced to a whole new area of knowledge during my mother's consultations at the multiple clinics I attended with her, I saw the struggle that most patients faced. My mother's diagnosis of Type 2 Diabetes and the many health complications she suffered, from end-stage renal failure, severe diabetic retinopathy which culminated in her being totally blind in 2005, hypertension, diabetic neuropathy, hypercholesterolaemia which led to more complications: lower limb amputated and losing her battle with life to a heart attack at Middlemore Hospital. All these health problems were the result of Type 2 Diabetes and not managing her condition. My mother's deteriorating health status was what I saw in other patients from the wider community at the same clinics that I was attending with my mother. It was heart breaking. In these experiences, the main focus discussed in consultations with health professionals whether the General Practitioner or Diabetes Nurse or the Dietitian or other health professionals who looked after my mother was 'food' or 'diet' and 'lifestyle choices'. I saw all of these in various patients who had the same health issues as my mother when I was interpreting for them.

Although I read studies about the increasing numbers of people with chronic disorders in New Zealand, particularly our Pasefika peoples, I did not expect to see it as one of my ‘realities’ in my own home. I read that Pasefika peoples have the highest rates of overweight and obesity and the detrimental health consequences of our peoples’ diet and lifestyle choices, I did not see beyond the ink and the paper these reports were written on. However, getting first-hand experience from my time of being my mother’s fulltime caregiver for many years and being a Samoan health interpreter opened my eyes to see beyond these statistics and scholarly studies.

I wanted to gain a better understanding of Samoan families’ perspectives on ‘food’ and related knowledge of food that influence their behaviours. Past findings showed Pasefika peoples having the highest rates of obesity and its effect on Pasefika adults and children (Rush et al., 2013; Statistics New Zealand and Ministry of Pacific Island Affairs, 2011). Also, ‘family’ is one of the central pillars in Pasefika cultures, particularly the Samoan one. Family in the sense that is not *palagi*-defined as in ‘nuclear family’ but the collective setting of the extended *aiga* (family). More Samoan families have migrated to New Zealand for ‘better opportunities’ in jobs, education and the list continues. However, the same ‘better opportunities’ that our peoples are seeking are also introducing them to health problems because of easy access to nutrient-poor foods and the overconsumption of foods that are sugar-salt-and-fat saturated (Rush, Puniani, et al., 2007).

I wanted to know and understand the influence that ‘family’ has on Samoan individuals, their dietary intake, and whether family members influence knowledge of others, especially

across generations of women in a Samoan family. The move to New Zealand has shifted the Samoan women's role to one of greater involvement in the kitchen and food preparation. I wanted to understand whether knowledge of food is influenced by generations in the Samoan family. I also wanted to understand how these family members navigate the food system to acquire foods to meet their everyday dietary needs and what influences their food choices and behaviours while navigating our food system. In saying this, I wanted to better understand the knowledge and perspectives of women of three generations from a Samoan family on food and related influences of food on their diet choices and behaviours, hence my focus on 'food literacy'.

1.8 Structure of the thesis

This chapter has outlined the background against which my study was undertaken and the gaps in the literature it hoped to fill. Chapter Two will present a more in-depth look at the relevant literature. Chapter Three will provide an overview of the methodological approach chosen and its relevance for my study. Chapter Four will discuss the findings for each family following four main topics, and will then discuss recurrent themes. Chapter Five discusses my study findings across all three generations in the five Samoan families in the context of the existing literature. This is also the concluding chapter and provides a summary of my findings, and presents recommendations for future research in this area, as well as a rationale for such studies.

Chapter 2: Literature Review

2.1 Introduction

This chapter evaluates and reviews the relevant literature on food literacy and how it is conceptualized both from a global perspective and in the New Zealand context. This section will also examine food literacy from a Pacific viewpoint, specifically focussing on a Samoan perception of ‘food literacy’. Health literacy will also be reviewed, as it is an important concept in relation to ‘food literacy’.

The literature search was undertaken using the key words ‘food literacy’, ‘nutrition knowledge’, ‘food or meal preparation’, ‘food knowledge and skills’. These terms were chosen because ‘food literacy’ was a new concept, recently introduced in international studies (M. G. Smith, 2009; Snyder, 2009; Thomas & Irwin, 2011; Vidgen & Gallegos, 2010).

2.2 From Health Literacy to Food Literacy

Poor health literacy is linked with worse health outcomes and poorer use of healthcare services (Vidgen & Gallegos, 2010, 2012). Initially, the importance of ‘literacy’ became a focal point of numerous discussions. These interests were drawn from trying to understand the association between poor education and health status. The relationship between poor literacy skills and health status led to the emergence of the term ‘health literacy’ (Vidgen & Gallegos, 2014). Health literacy focuses on the development of knowledge and capacities for individuals so that they can use and be in better control over their health.

The WHO defines ‘health literacy’, in association with health promotion, as “the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health” (Nutbeam, 2008, p. 2074). This highlights the importance of obtaining personal knowledge and skills to help develop both personal and community health. It increases populations’ capabilities to understand and raise awareness of the factors that shape and influence their health across the lifecourse. Health literacy is acknowledged as a contributor to increasing people’s abilities to have control over their health and what underpins this (Nutbeam, 2008). Food literacy relates to understanding of dietary intake and how this may affect health. Food literacy should also be considered a ‘reinforcer’ to implement health initiatives in order to empower individuals and communities to make informed dietary and lifestyle choices to improve their health status. Velardo (2015) argues that food literacy irrefutably focuses on health literacy skills and explores knowledge and capacities in a food environment. Moreover, food literacy is positively associated with personal knowledge and capabilities for making better food and lifestyle-related choices necessary for maintaining good health.

2.3 Food literacy: global definitions

Food is an essential need. However, food has become somewhat complicated because of society’s consumption of quantities and combinations of food across the lifecourse that contribute to the development of diet-related disorders. This association of food with diet-related disorders, which has now reached epidemic proportions, is recognised as a global

health concern. Vidgen and Gallegos (2010) hold that our food, and how we ‘view’ food and our dietary intake have changed over the years.

Studies have demonstrated the importance of understanding people’s knowledge and skills about food (Vidgen & Gallegos, 2010, 2011b). Additionally, the need for individuals and communities to know about their food choices in order to meet their basic needs and maintain good health is emphasised. Evidently, our ‘foods’ have gone through major changes, from healthy, wholesome foods to more processed and energy-dense foods. Moreover, multiple populations worldwide have seen their diets modified from traditional diets that were arguably healthier than today’s over-marketed unhealthy foods, which many populations now over-indulge in. Scholars (Rush, Puniani, et al., 2007; Swinburn, Sacks, et al., 2011) have discussed these changes in our food because they are associated with diet-related disorders, particularly overweight and obesity. ‘Food literacy’ emerged from these discussions. Moreover, debate about poor food literacy is associated with poor food choices and unhealthy dietary behaviours and the increased risk of diet and lifestyle-related problems (Vidgen & Gallegos, 2010).

Food literacy is defined, dependent on theoretical perspective. The numerous works on food literacy all agree that the focus is on empowering the individual and communities. The key emphasis is for individuals and communities to be ‘equipped’ with knowledge and skills that would enable them to make ‘healthier food choices’.

There are many similarities in the different definitions of food literacy that numerous scholars provided. Most scholars (Nowak, Kolouch, Schneyer, & Roberts, 2012; M. G. Smith, 2009; Vidgen & Gallegos, 2010, 2011b, 2014) described food literacy as the abilities and skills of a person to procure, interpret and understand basic food and related information and services, and to utilise those information and services in ways that are health enhancing. This description of food literacy resonates with Nutbeam's (2008) explanation of the health literacy approach. Food literacy should include the domains of food, diet, cooking and meal preparation as well as nutrition. Reflecting on food literacy, the same authors emphasise the importance of obtaining food and food-related knowledge and capacities in order for individuals and communities to be in control of their food and diet-related choices. Moreover, society as a whole will understand the outcome of its food related decisions and be empowered with the knowledge and skills it has acquired.

Childhood and adulthood obesity remain a public health challenge. Numerous authors (Campbell et al., 2013; Kakinami, Houle-Johnson, & McGrath, 2016; Machín, Giménez, Curutchet, Martínez, & Ares, 2016) have documented the influence of the home environment on fuelling the overweight and obesity problems. How food is prepared is an essential life skill that passes from adults to the children of a family. Campbell et al. (2013) agreed that the home food environment is strongly correlated to the excessive body weight of children. All household members can get involved and interact when preparing family meals. As stated earlier, understanding the association between food literacy and nutrition

is recognised as important in order for individuals to be empowered to make wiser and healthier food and lifestyle-related choices.

Barreiro-Hurlé, Gracia, and de-Magistris (2010) suggest that being food literate does influence food choices, with more people making healthier selections. Adults' adequate understanding of food and food-related information was reflected in their higher use of food labels. Food labelling include nutrition information panels, ingredient lists, storage and preparation instructions, front-of-pack (FOP), date marking, health claims, to name but a few (Food Standards Australia New Zealand, 2016; Ministry for Primary Industries, 2013; Williams & Mummery, 2013). Barreiro-Hurlé et al. (2010) emphasise the importance of being aware of food and its association to health in order for individuals to be more conscious of using food labels and health claims on food products. It shows that food literate adults plan and make more healthy food decisions. Campbell et al. (2013) also highlighted the importance of adults' nutrition knowledge and understanding, particularly mothers' as they can influence child diet and child health. In general, 'mothers' tend to be the family members most involved in their families' food planning and meal preparation. Mothers have more influence on food shopping since they are mostly responsible for what their families eat. Barreiro-Hurlé et al. (2010) agreed, and stated that households' primary food shoppers ("72% were female") (p. 223) who understood "nutrition information" (p. 221) food labelling used these food labels when shopping for food. Moreover, these adult shoppers chose healthier food items. Having nutrition knowledge to influence other individuals' diet is a feature of food literacy under the planning and management

component domain (Vidgen & Gallegos, 2014). Even though food literacy is not clearly mentioned in these authors' works, as it is an emerging concept, one or two or more aspects of food literacy components have been explored in the aforesaid studies on adult nutrition knowledge, and how adult decisions of family meals can impact on the health of their household.

Mothers who are involved in food selection and preparation are the gatekeepers in their households, and have the most influence on family meals and health. Machín et al. (2016) explored how low-income mothers perceive nutritional information and how their knowledge of this information influences the food they prepare for their children. The mothers who participated in the Machín et al. (2016) study, similar to other studies (Sharf et al., 2012; Williams & Mummery, 2013), agreed that they could not understand nutrition information on food packaging because it was 'too technical' (Machín et al., 2016). It is difficult to make decisions on food and have healthier food selections if individuals and families find food related-information difficult to comprehend. Food literacy emphasises a person's knowledge about the food they are selecting to buy and where its source. It is important for an individual, families or communities to be more aware of the food they are buying for their meals. If individuals and communities cannot understand the nutrition information because the language is 'too technical', this restricts them when it comes to making decisions on their own food, which evidently impacts on their health. To counter this 'issue', food and related information should be simplified (Machín et al., 2016) in order

for individuals and families to be capable of making informed healthy food choices and to be in control of their own health.

Nowak et al. (2012) further explore on food literacy in relation to children and their food choices, based on a school gardens programme. They also discuss food literacy in relation to the increasing problem of childhood obesity. Nowak and colleagues' work is drawn from the Vidgen and Gallegos (2014) definition of food literacy. Children are influenced by the adults' food choices within their families especially when it comes to their main meals. The position of Nowak et al. (2012) about having adults involved in children's learning about food is similar to that of Barreiro-Hurlé et al. (2010). All of these authors emphasise the importance of the involvement of adults in teaching children to learn and understand about food and to be aware of the link between their diet and their health.

The literature has presented the benefits of increasing food literacy knowledge and skills for children in order for to counter the growing problem of childhood obesity. Most of the literature identifies the need for young children to be equipped with knowledge and skills in order to make healthier food choices. Nowak et al. (2012) discuss the importance of involving young children in understanding where their food comes from, awareness of food-related diseases, and the advantages of having a healthy diet. The emphasis on learning about food from the early years of life onwards can benefit children in later years. Children should start learning about the food they eat and this should include food planning with the adults in their families. This way children can learn more about the food they are eating, and be involved in its planning and preparation. Their learning development about

food can influence their food practices from their early years and can be a daily dietary patterns in which they can continue into adulthood. Adults' involvement in children's food preparation can be beneficial, health wise. Children can learn food gardening and cooking their produce, and prepare meals according to their preferences. It is an interactive learning experience for children but it also enables children to interact in food preparation and physical activity from gardening. Accordingly, children will be able to continue practising healthier food choices, and adopting healthier food-related practices outside the school setting.

Snyder (2009) argues that food literacy is more complex than described above. According to Snyder, it is important that food literacy refers to understanding not just 'our food' but also 'our culture'. Snyder (2009) argues that food literacy summarises the conceptualisation of our human experiences in relation to our food, including the evolving process of how we humans access our foods. He reiterates his views by referring to how our food evolves from growing gardens to kitchens, and from industrial production to foods on the shelves. He concluded that "food literacy is cultural literacy" (Snyder, 2009, p. 283). Food is central in many cultures. Food and culture are interconnected based on the individual's worldview shaped by cultural beliefs and values and the persons own perspectives of food. Snyder (2009) argues that knowledge of food should be interpreted in the light of cultural values, whether being an individual or family or a specific community. Moreover, promotion of food literacy should be integrated with health interventions which are crucial in influencing an individual's knowledge of food and lifestyle-related choices. The emphasis on equipping

individuals with skills and capacities, and be competent in knowing their ‘food’ and its impact on health can help individuals and families make better and healthier food choices.

In the view of this researcher (HNWS), Vidgen and Gallegos (2010, 2011, 2012, 2014) and Cullen (2015) provided, the most comprehensive and resonant understanding of food literacy. Vidgen and Gallegos (2014, p. 54) hold that food literacy is “a collection of inter-related knowledge, skills and behaviours required to plan, manage, select, prepare and eat foods to meet needs and determine intake” as well as “the scaffolding that empowers individuals, households, communities or nations to protect diet quality through change and strengthen dietary resilience over time”. This definition emphasises the importance of having the ability to understand the fundamentals of the nature of food and how it is associated with a person’s health. Such fundamentals range from procuring food-related information that individuals or communities can process, analyse and be able to use to meet their daily dietary intake.

Based on their two Australian studies, Vidgen and Gallegos (2011b, 2012) discussed multiple definitions of food literacy from the literature and later proposed a conceptual model that looked at the correlation between food literacy and nutrition status. The Expert Study (Vidgen & Gallegos, 2011b) was the first study that was conducted to explore Australian food experts’ understanding of food literacy, and to seek a definitive definition of food literacy and its components. Moreover, the authors were drawing from experts’ understanding of food literacy and its association with nutrition. These food experts from around Australia were food professionals who worked in areas such as nutrition,

gastronomy, food production, education (home economics classes at school) and food industry settings (Vidgen & Gallegos, 2011b). The second study, the Young People study, focussed on the perspectives of disadvantaged young people (aged 16-25years) (Vidgen & Gallegos, 2012). The participants were defined as being marginalized because of their individual circumstances, ranging from their living situation, education and their work settings. The authors identified a definitive definition of food literacy and its potential components from re-examining both studies as well as their review of the literature on the term food literacy (Vidgen & Gallegos, 2014). Vidgen and Gallegos elaborated more on their final definition of food literacy that entailed four descriptors and eleven components of the knowledge and skills of a food literate person.

Both authors listed these eleven components of food literacy as important in constructing empowerment for individuals and communities, in order to make informed decisions about food and diet-related issues. Vidgen and Gallegos (2014, pp. 55-57) summarised these food literacy components as follows:

- | | |
|-----------------|---|
| Plan and manage | <ul style="list-style-type: none">• Prioritizing money and time for food.
• Being able to plan how to access food regularly from some source (formally or informally), regardless of changes in circumstances or environment.
• The ability to make feasible food decisions in order to balance food needs. |
|-----------------|---|

- Select
- Knowing multiple sources to access food from, and knowing the advantages and disadvantages of these sources.
 - Knowing how to determine what is in the food product, whether it came from and how to store and use it,
 - and being able to can judge the quality of food
- Prepare
- Being able to make a good tasting meal from whatever food and ingredients that are available,
 - this includes the ability to use common pieces of kitchen utensils and equipment, and having sufficient skills to prepare meals, whether from written or unwritten recipes. This includes experimenting with food and whatever available ingredients.
 - Knowing and applying basic principles of food hygiene and handling.
- Eat
- The ability to know and understand that food has an impact on personal health and wellbeing.
 - Demonstrating self-awareness to personally be in control to balance food intake,
 - this includes knowing food that is good for health, food that needs to eat less or restrict, and knowing the appropriate

portion size and frequency,

- this knowledge of food and its impact on health will help equip the person to make better food choices for good health.
- Being able to join in and eat in social way,
- this includes being able to socialise and share a meal.

These components of food literacy look at how people access food and emphasise the ability of any individual to navigate through the information and food environment of society to select healthy food choices and maintain those healthier choices.

Cullen, Hatch, Martin, Higgins, and Sheppard (2015) concur with the previous scholars' definition of food literacy. Cullen and colleagues also agree with Snyder (2009) on the influence of culture on people's food literacy. However, Cullen et al. (2015) also propose that the 'environment' should be included in defining food literacy. The environment including financial, geographical, transport, housing and climate is important because it impacts on the food security of individuals and communities. Cullen and colleagues posit that social, cultural and environmental elements cannot be separated from defining food literacy because they all contribute and influence the understanding, knowledge and behaviours of peoples with regards to food. Moreover, skills and knowledge of food cannot be separated from their association with food security because without being food secured individuals, families and communities would not be able to have a positive relationship with food. Moreover, it is important to be food literate in order for the sustainability of the

environment which sustains and protects food security for the general populations, particularly communities who face socio-economic and health disparities.

In spite of multiple definitions of food literacy, and the contexts that it is applied according to scholars' publications, all of the previously mentioned scholars have similar insight of the emerging concept. Food literacy revolves around our individual understanding and skills that are associated with food.

2.4 Food literacy: New Zealand context

Food literacy is an emerging term that describes a concept that unlike health literacy has not been used widely in New Zealand literature. Health literacy highlights the need to empower individuals, particularly adults, to make informed health decisions in order for them to be in control of their health. The MOH (2010) stated the importance of health literacy in New Zealand as it is associated with low health status for the overall general population. Similarly, food literacy, which is associated with health, empowers individuals to make informed food choices in order for them to be in control of their diet.

An extensive search of the internet and library resources (Appendix I) lead to the following understanding that informed the direction of this thesis. Food literacy is all about understanding food, from the basics of what food is for human sustenance, to what is in the food that we eat in order to maintain good health. It is an important aspect of food literacy to understand what a person's recommended daily intake is of the various foods they eat. Food literacy also includes understanding and following nutrition guidelines and food components. It highlights the essentials of dietary components that we humans need for

energy, growth and good health such as fibre, vitamins, minerals, proteins, complex carbohydrates and other important nutrients including water.

The New Zealand literature presents a number of cross-sectional surveys that report both individual and societal knowledge regarding food literacy, diet-related problems and food labels. There have been numerous attempts to understand New Zealanders' dietary intake over the past years. Wiseman (1994) looked at how 835 New Zealanders perceive some of their foods, such as whole milk, beef and butter, to name a few, in association with heart diseases. Respondents to Wiseman's survey strongly believed that butter and processed meat such as bacon and sausages should be eaten occasionally because they believed that they increased the risk of heart disease. A significant number of Wiseman's (1994) respondents agreed people should eat more of wholemeal bread because it was endorsed as 'good' and highly recommended by the health and food industry (Wiseman, 1994). Moreover, most of the participants stated that the consumption of sugar and salt should also be reduced. This shows that New Zealand participants were already aware of the foods they needed to eat more or less. What is more interesting in this work is that more women emphasised "the value of cutting down" in terms of eating less fried eggs, meat pies, fish batter, bacon, butter and sausages (Wiseman, 1994, p. 17), than their men counterparts.

There is a significant consensus on salt reduction in food (Wiseman, 1994), with authors (Lofthouse, Te Morenga, & McLean, 2016; Monro, Ni Mhurchu, Jiang, Gorton, & Eyles, 2015) agreeing that salt intake is associated with elevated blood pressure: a key risk factor for cardiovascular diseases (CVDs). Intake of the 'right' foods and 'amounts' of additives

such as salt has been widely documented. Young and Swinburn (2002) explored the influence of the Heart Foundation of New Zealand *Pick the Tick* nutrition labelling programme which has been a successful initiative in that it has been adopted by some key members of the food industry, sustained for more than 20 years and consumers report awareness of the *Tick* logo and what it means. The campaign targeted food suppliers to improve nutrition labelling, and led to the reformulation of some food products and the amount of added sodium in food items such as bread, breakfast cereals and margarine. According to Young and Swinburn (2002, p. 18), the *Pick the Tick* logo employs “nutrition signposting” to equip food shoppers to know that the foods are endorsed because of their reduced salt content. The concept of *Pick the Tick* was beneficial to New Zealanders because most consumers were drawn to the ‘health claim’ on food products. Food labelling of packaged food is mandatory and it is important for individuals to know and understand what is in their food in order to choose and follow a healthy diet. Young and Swinburn (2002) found that 59% of consumers reported buying products with the Tick logo but there was no analysis by ethnicity or socioeconomic status.

Recent works suggest that food labelling such as the Nutrition Information Panel (NIP) increases individuals’ “access to nutrition information and promote knowledge” (Maubach & Hoek, 2010, p. 90) . The nutrition information panel (NIP) is an element of food literacy, yet there is still no specific mention of ‘food literacy’ in the literature. Reports have presented multiple population-wide approaches introduced by either the Ministry of Health or various health organisations or epidemiologists to tackle diet-related health problems.

Most of these mentioned food labelling in order to promote healthy food shopping and increase the understanding of the New Zealand population on food and diet-related problems. Ni Mhurchu and Gorton (2007) argue that it is important to provide nutrition labels and claims in a more comprehensive way in order for people and communities to improve their food choice and purchase. Signal et al. (2008) agree, suggesting that nutrition labels are not meeting the needs of communities that are facing the burden of nutrition-related problems. If this is the case, then food literacy should be explored in order to understand more about food and diet-related issues, focusing on Pasefika peoples.

The researcher's (HNWS) personal experience suggests that, despite the demonstrated benefits of food labelling, there is still confusion around what constitutes a healthy diet among the general population, and particularly across Pasefika (including Samoan) communities who are at high risk of diet-related problems.

2.5 Food literacy: Pasefika and Samoan views

Food means a lot to Pasefika peoples, including Samoans. Food is about culture, spirituality, and connectedness at individual, familial and societal levels. Pasefika peoples migrated to New Zealand, bringing with them their customs and practices, trying to maintain their identities, and achieve a sense of belonging and connectedness (Manuela & Sibley, 2015). Sharing food at social functions is expected, regardless of whether these are large, small, formal or informal gatherings. Food is always provided in larger quantities than necessary. It is more about the larger quantities of food in lieu of the quality ('Ahio, 2011). Larger quantities of food in these social functions are a norm which signifies the wealth of the

individual and most importantly the family. Most Pasefika peoples have strong social connections such as church affiliations (Dewes, 2010; Statistics New Zealand and Ministry of Pacific Island Affairs, 2011), where churches are recognised as a form of villages in New Zealand, a custom brought in from people's island nations.

No specific literature was found on the current social connections and affiliations of Pasefika peoples including Samoans, even though there are strong and well established *asosi* or *kalapu*, which are village subcommittees, sports clubs and secondary school alumni established in New Zealand in the researcher's experience. School alumni are referred to as *asosi* or *kalapu*: these words can also relate to school associations of students educated at specific secondary schools in Samoa before moving to New Zealand. Social bodies such as village subcommittees and school alumni associations should be seen as significant as the church settings because they can be used to disseminate information and services for the wider Pasefika (including Samoan) communities (Rush, 2009). The aforesaid social settings are common in New Zealand and other countries Pasefika people have migrated to.

Understanding Pasefika peoples' and Samoans' unique perception of food is important. Despite the benefits of sharing food, it has also perhaps meant the 'demise' of Pasefika communities. There has been a push-pull relationship with health practitioners to tackle the diet-related problems faced by Pasefika peoples. Initiatives are implemented to influence Pasefika communities' knowledge of food and diet-related problems. Yet, compared with

the general New Zealand population, Pasefika peoples (49% Samoan) have a higher proportion of children and adults with chronic diseases.

When it comes to understanding food, the current health messages appear not to be effective in targeting Pasefika communities. Hence, the importance of promoting of food literacy among Samoan and other Pasefika peoples. Signal et al. (2008) conducted a study involving 158 New Zealanders, which explored Maori, Pacific and low-income shoppers' perception of nutrition labels. The results were similar to those of Wiseman (1994) study. Both studies identified the need for "simple "food" terms" (Wiseman, 1994, p. 19) or "simple nutrition labels" (Signal et al., 2008, p. 706). These findings indicate the need to improve consumers' understanding of the food labels in order for them to buy the 'right foods'. Simplicity in food information has 'value' in enhancing individual and communities' knowledge that will enable them to make informed and healthier food choices. Similarly, Maubach and Hoek (2010, p. 93) agree on "simple nutrition information that consumers can process easily". Having the competency and capacity to interpret and understand food and related information does not need to be a strenuous process for food shoppers.

2.6 How food literacy intersects with food security

Food literacy cannot be seen as separate from food security. Knowing which foods are better is not useful unless those foods are available and affordable. Vidgen and Gallegos (2014) recognise food literacy as an 'enabler' for individuals and communities to obtain

knowledge and skills to improve and protect their health. However, being food literate cannot be explored when individuals and communities are encountering food insecurity.

The Food and Agriculture Organization (2011, p. xix) highlights the importance of food security where “all people at all times have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life”. The ability to ensure both global and national food security is widely reported as underpinning the need to reduce food scarcity and hunger. For this thesis, I will use Rush’s definition of food security. Rush (2009, p. 9) gave a simple but well-defined description of food security in “having easy access to enough healthy food every day. It must be culturally and socially acceptable”. This definition of food security resonates with and relates to my Samoan participants because food has a significant meaning to them. Accordingly, it is important to share food that is both culturally and socially satisfying and meaningful in terms of Samoan beliefs and customs. Moreover, knowing and understanding about food is necessary in order to make appropriate health decisions.

Rush (2009) defines food security, focusing on elements such as emphasising the importance of having access to enough healthy food for daily dietary intake, and the need for food to be culturally and socially satisfying for individuals and communities. The inclusion of the importance of cultural and social acceptance of food in Rush’s (2009) definition of food security aligns with the definitions of food literacy that Vidgen and Gallegos (2014) and Snyder (2009) presented. These authors highlighted one of the fundamental aspects that is important in Pasefika communities. The literature does not

highlight 'culture' as an important factor in influencing Pasefika populations and their knowledge and perception of their surroundings. However, culture should be considered essential in delivering health interventions targeting Pasefika peoples. Borrows et al. (2010) concur, stating that retaining strong cultural links for Pasefika communities is crucial in improving Pasefika health status. Culture is part of the Pasefika identity and their worldview is influenced by the interconnectedness of their cultural beliefs, values, family, community as a whole and spirituality.

Rush's (2009) definition of food security also aligns with the food literacy components that were described under the four domains outlined by Vidgen and Gallegos (2014): planning and managing, selecting, preparing and eating. Having access to enough healthy food for every day intake needs planning and management. Individuals and communities need to be aware of where to access food in different environments, hence they need to plan their food choices. Pasefika peoples are family, spiritual and cultural oriented and food is important to all. It is customarily important for Pasefika peoples to provide food for their extended families and guests to their homes (Rush, 2009). This tradition is also seen at social functions. As stated before, in the researcher's (HNWS) experience, the number of attendees in these social functions is not important but the quantity of food is important. Planning, selecting and managing also relate to food that are culturally and socially satisfying at an individual and societal level. Accordingly, the ability to access these 'acceptable' foods requires knowledge and understanding not only of whether their food sources are reliable but also of whether the food acquired is beneficial to their personal

well-being. Selecting available ingredients and preparing edible and healthy meals enables the individual and communities to be aware of eating right and having a balanced dietary intake.

Food literacy is interrelated with food security, in which the latter ensures the ability to procure food for a healthy diet for both individual and communities. Possessing the knowledge and the capacities to determine the procurement of food and food choices emphasises the interrelatedness between food security and being food literate. The link between food literacy and food security highlights the importance of having a supportive and sustained environment for positive changes in dietary behaviour.

2.7 Why it is a predicament

Evidently, Pasefika peoples including Samoans are facing one of the most challenging dilemmas that is affecting their health. Diet and other lifestyle choices are blamed. There has been a dearth of studies in the family context of what is understood about food and its association with family food choices, taking into consideration the influence of cultural beliefs and values and how these mechanisms determine and shape their knowledge and understanding of food.

There is a gap in the literature in the context of food literacy in New Zealand and particularly among the Pasefika families and communities. Scholars have explored and discussed the challenging plight of chronic diseases that Pasefika peoples are facing. Increasing rates of childhood and adulthood obesity amongst the Pasefika communities are of great concern as they account for a number of chronic disorders. Savila and Rush (2014)

posit that such destitution has befallen Pasefika children and families despite the New Zealand government delivering strategies to improve their health status. Furthermore, Pasefika children are following suit, raising potentially calamitous health concerns later in adulthood. Moreover, the escalating number of T2DM cases in Pasefika communities has been linked to this demographic showing the highest rates of obesity compared to the overall New Zealand population. It is an indication that Pasefika health is nowhere near improving. It remains a health concern because the Pasefika population is getting younger and fatter all of which increases their risk of abnormal glucose tolerance levels potentially leading to chronic diseases which can carry into adulthood.

Yet these diet and lifestyle-related problems are preventable, and action should start early in life. Godfrey, Gluckman, and Hanson (2010) posit that in order to reduce the risk of noncommunicable diseases the focus should be on adopting a lifecourse approach. These authors present evidence of how maternal influence contributes to early life developmental experiences and that it is intergenerational. It is important to consider changing tactics in order to tackle the high adiposity rates that are affecting Pasefika communities.

The focus should be on implementing health interventions earlier in life, looking at modifying diet and lifestyle choices and ensuring these become an ongoing daily habit. Maternal influence on early life years can be an inherent key feature which has prospective advantages to shape early child development and lifestyle choices. Savila and Rush (2014) underline the gravity of the health of the mothers because they can reflect the health of their children. This emphasises the need to understand how the mother's lifestyle choices can

influence the child's early years of development and how it is associated with later-in-life choices. This corresponds with the GRAVIDA (2013) *Healthy Conversation Skills Training*, which focuses on how health professionals and women and their families can work together in order to instigate, identify and induce healthier behaviours. It again highlights the important role that a 'mother' plays during pregnancy and early life development, focusing on a mother's diet and lifestyle choices.

This initiative (*The Health Conversation Skills training*) (GRAVIDA, 2013) is a feature of food literacy which focuses on understanding food and individual behaviours that impact on health. The *Health Conversation Skills training* not only empowers the mother to make improved and healthy changes for herself and unborn baby during her pregnancy, but also equips families to make informed decisions on their dietary intake and lifestyle choices. Obviously making healthy choices relies not only on the mother but the family as a whole. This argument is similar to Okesene-Gafa, Chelimo, Chua, Henning, and McCowan (2016) and their study on trying to understand the knowledge and perception of pregnant women in South Auckland regarding nutrition and physical activity. Despite socio-economic factors relating to access to and consumption of healthier foods, there is emphasis on healthy conversation tools in which pregnant women could plan, manage and prepare healthy meals for themselves and families. Okesene-Gafa et al. (2016) adopted Gravidia's approach, providing 'healthy conversation tools', which are interrelated with food literacy, in regards to planning, managing and preparing meals.

Family members are known to either reinforce positive dietary change or oppose this approach. Pollard, Zachary, Wingert, Booker, and Surkan (2014) concur, arguing that family and community relationships play a role in influencing dietary change behaviour in a low-income community. De Wit et al (2015) also emphasised the positive influence of family meal culture on the younger family members, stating that family meals were associated with improved nutritional practices. Thus making behavioural changes should be a joint responsibility for the mother and the family and will later influence the community as a whole. As stated, Pasefika communities value social institutions such as family, church and their community. Their social backgrounds have institutionalised and shaped their knowledge and understanding of food and health-related choices. This argument is similar to that of Falk and colleagues (cited in K. C. Smith, Kromm, Brown, & Klassen, 2012, p. 80). They stated that in order “to understand how people view healthy eating, we need to explore the sources from which they gather their meanings for healthy eating, as well as how they organize this information in meaningful ways that shape their food choices”.

In order to understand Pasefika and Samoan knowledge and understanding of food literacy, the focus should be on exploring the fundamental meanings of their ‘world’ and how their ‘meanings’ and perception of their ‘world’ have influenced their food choices and eating behaviours.

Thus, food literacy can be considered of enormous importance in countering the ever-increasing problem of diet-related problems such as excessive body weight, high blood pressure, dyslipidemia, renal and liver disorders and cardiovascular diseases that is high

amongst the Pasefika peoples. Vidgen and Gallegos (2010, p. 7) underline the importance of food literacy, proposing that it should be conceptualised “as an essential life skill”. Samoan and other Pasefika communities are facing a plight of being at high risk of diet-related problems and the government and numerous scholars are trying to find ways to tackle this health challenge. With a growing number of concerned government bodies, epidemiologists and other interested groups, food literacy should be included in delivering health messages targeting Samoan and Pasefika peoples.

This thesis focuses on food literacy across three generations of women in a Samoan family, to try and identify influences on family members’ understanding around food and related aspects.

Chapter 3: Methodological Framework

3.1 Introduction

This chapter discusses how the research questions were investigated, starting from trying to understand the meaning of ‘food literacy’ in the literature to formulating questions around food and related knowledge of food. The indicative questions that were articulated were appropriate for my participants in terms of language used with the three generations of women. This chapter will also provide a rationale for the chosen design and methodology.

3.1.1 Study Aims

This study has three main aims:

1. Exploring the understandings of food literacy in three generations of a Samoan family,
2. Examine how each of the three generations navigate the food system to ensure that their dietary intake contributes to their quality of health, but also whether they ensure that their everyday food intake is consistent with the nutritional recommendations,
3. Identify whether knowledge in food literacy is influenced by generations, both within (intra generationally) and between/ across generations (inter generationally).

3.2 Rationale and design

The qualitative design was to answer the question “what does food literacy mean for families; three generations of Samoan women in five families?” Talanoa methodology was applied to transcripts of *talanoa* with three generations of Samoan women from five families (n=15). I will start by providing some background on both the Delphi method and the Talanoa approach, while also providing a rationale of my chosen design and methodology.

3.3 The Delphi technique

According to Gupta and Clarke (cited in Geist, 2010), the Delphi method is named after the atavistic Greek oracle at Delphi who was believed to predict the future to those who sought counsel. The Delphi method originally prompted, reviewed and drew upon the collaborative views and expertise of a ‘panel of experts’ (Fletcher & Marchildon, 2014; Graham, Regehr, & Wright, 2003). The aim of the technique is to elicit the most consistent consensus based on the views of a panel who have knowledge of the topic being examined (Hasson, Keeney, & McKenna, 2000) and will collaborate and contribute insight on the complex issue being studied (Fletcher & Marchildon, 2014). These panellists can either be professional experts or lay people who are knowledgeable in the area discussed (Norcross, Hedges, & Prochaska, 2002; Rowe & Wright, 2011).

The conversations continue for a number of rounds using the same participants until consensus is reached (Geist, 2010; Vidgen & Gallegos, 2011a, 2011b). According to Vidgen and Gallegos (2014), Delphi studies began in the 1950s and have been used in

health studies including ones concerning food literacy. This way of “finding out” can also be applied to conversations with individuals.

The Delphi technique was appropriate to use in this study because of the focus on eliciting views from experienced ‘experts’ on food literacy and what food literacy meant for their health. These experts were fifteen Samoan women who were involved with their family’s food preparation. Employing of the Delphi technique in this study enabled the researcher to obtain individual views from the participants to transform into group consensus (Hasson et al., 2000). The initial round of the Delphi (Round One) process enabled the researcher to “uncover the issues pertaining to the topic under study” (Keeney, Hasson, & McKenna, 2001, p. 196). This ‘idea-generating strategy’ (de Meyrick, 2003; Norcross et al., 2002) in the Delphi method provided responses from women in the participating Samoan families. The researcher then summarized the participants’ first interviews and fed-back to the participants to review their initial responses in the second round.

Originally, the studies using the Delphi technique encompassed a sequence of questionnaires (Franklin & Hart, 2007; Landeta, 2006). However, as the Delphi method has been ‘modified’ throughout the years in various fields of its applications (Fletcher & Marchildon, 2014; Graham et al., 2003), ‘traditional questionnaires’ were not used in this study. The participants were not asked to write their responses down, instead individual one-on-one semi-structured interviews were conducted in order to attain the participants’ views and experiences. This unique individual one-on-one sitting aspect of the Delphi method provided participants with anonymity (Fletcher & Marchildon, 2014; Rowe &

Wright, 2011) and it ‘blended well’ with the principles of Talanoa, the Pasefika method of data collection (Farrelly & Nabobo-Baba, 2014; Vaioleti, 2006).

3.4 The Talanoa method

In order to embark on Pasefika (Samoan) research, a researcher needs to comprehend Pasefika (Samoan) values, norms and ethics in order to gain insight on its people and their ‘world’. Vaioleti (2006) claims that worldviews/ knowledge are not constructed the same way or have the same origins. As a Pasefika scholar himself, Vaioleti also argues that Pasefika epistemological and ontological perspectives are different from the ‘imperial’ Western ideologies. Pasefika scholars (Suaalii-Sauni & Fulu-Aiolupotea, 2014; Vaioleti, 2006) believe that in order to understand Pasefika people; researchers should consider culturally appropriate methods of research. Tamasese Taisi Efi (2005, p. 61) also posits that, “retrieving some knowledge may not be possible without the lifting of *tapu*” and further argues that these are some of the unique aspects of the Samoan formalities (and spirituality) that are “not fully realised by many scholars, past and present” (ibid. p.62).

Instead of assuming that all knowledges are the same in their origins and structure based on Western egalitarianism, one must look beyond this all-inclusive capitalist notion of understanding different populations. In agreement with Tamasese Taisi Efi’s assertions (2005), there are certain ways or order of appropriateness that a researcher needs to understand when embarking on Pasefika studies, particularly focusing on Samoan peoples and their norms. Data cannot be collated unless the researcher or researchers adhere(s) to the ‘*tapu*’ (Tamasese Taisi Efi, 2005). Irrespective of the vast travelling from island nations,

Pasefika peoples (including Samoans) have adapted and maintained their shared beliefs and knowledge while acclimating to their host countries and new knowledge. Pasefika peoples have a holistic view on their upbringing. Their holistic worldview is derived from the past, present and what constitutes the future of their extended families.

Utilising the *talanoa* method in this study was culturally appropriate as the researcher had taken into consideration the values of the social system that Samoan belief is based on. This social system acknowledges the spiritual order of maintaining harmony within the families and the individual participant, and for the researcher as well. Maintaining harmony considers the importance of the social relationships with the elders in the study and the rest of the participants. Anae (2010) reiterates the importance of the right approach when undertaking a Pasefika research. Anae also emphasises that a researcher should understand '*teu le va*' when embarking on a research focusing on Pasefika communities. '*Teu le va*' had initially been introduced as a research approach (Anae, 2010), however, it had been foremost a Samoan reference to the appropriate way of engaging between or among people. One must not overstep the boundary of respect especially when elders and people with higher status in the *matai* (chiefly) order are involved. Since the participants in this study are grandmothers and mothers (daughters), the researcher had to maintain the relational respect with the participants. This approach was also applied to the younger participants although they were younger than the researcher. *Talanoa* is congruent in undertaking studies with Samoans participants. It is appropriate as *Talanoa* ethics acknowledges spirituality, language and cultural practices and values of respect between the researcher

and the participants. These traditional values should be practised and encouraged when embarking on a study with Pasefika peoples (Tuafuti, 2011).

3.5 Sample

3.5.1 The Delphi-Talanoa inquiry

In the context of Pasefika traditions including Samoan customs and norms, it can be difficult in a group session for a participant to share her views. It is culturally inappropriate in the Samoan traditions to speak up especially when ‘elders’ and people with higher status (chiefly status) are present. Tuafuti (2010) explains this is the ‘culture of silence’ which is one of the dynamic components of Pasefika culture including Samoan. According to Tuafuti, this ‘mechanism of silence’ is one of the unique and symbolic elements of cultural norms that Pasefika peoples practise, constituting an aspect of communicative competence practised for generations. Tuafuti (2010) explains that this silence phenomenon in the Pasefika (Samoan) culture, is for any individual to know when, where and how to speak and also to be silent in different settings. Tamasese Taisi Efi (2003) further explains in his story of *Gaopoa*, where such forthcoming candour can be potentially offensive. In respect to this ‘culture of silence’ (Tuafuti, 2010) and what is culturally appropriate in the Pasefika, particularly the Samoan culture, the *Talanoa* method (Vaiioleti, 2006) was chosen for this study to gain comprehensive insights into Samoan understanding of and attitudes towards food literacy. My participants included third generation family members who were the granddaughters. It is common that it would be difficult for the younger participants to ‘speak up’ or ‘share their views’ when they are seated with their elders. Respecting the

cultural protocols of the ‘culture of silence’, the *talanoa* method was utilised to respect the position of the granddaughters and daughters in this study. In saying this, I conducted separate interviews with each participant. Most importantly, the *talanoa* method was used in this study, in the hopes that it may result in a better understanding of how Samoan families, represented by three generations of women in the family, perceive food literacy and what it means for their health.

Talanoa has similar principles to the Delphi approach and the merging of Delphi and *talanoa* enabled the researcher of this study to institute multiple communications with each participant. The Delphi-Talanoa method allows the researcher to report back to each respondent to review their initial responses from the first round of *talanoa* session and rank their responses according to their importance in the second round. This structure of feeding back to the participants to re-evaluate their first responses enables each contributor to reconsider until consensus is reached (Rowe & Wright, 2011; von der Gracht, 2012).

3.6 Participants

Fifteen participants from five Samoan families were recruited for this study. They were female members of three generations (maternal grandmothers, daughters, and granddaughters) within the same household. These respondents were purposively selected for this study to see if beliefs and knowledge about food and its relation to health were passed down from one generation to the next, or not. Below are the tables showing the demographic characteristics of the fifteen respondents who participated in the present study. Table 3.1 presents demographics of the five grandmothers, ranging from their ‘age’ at the

time of study, the year they settled in New Zealand and the highest level of education they attained. Table 3.2 presents the demographical information of the five daughters, showing their age at the time of study, the year they migrated to New Zealand and their level of education they obtained. Table 3.3 presents the demographics of the five granddaughters who participated in this study, indicating their age at the time of study, the year of migration to New Zealand which only applied to three granddaughters because two of the five granddaughters were New Zealand-born. It also shows their highest level of education.

Table 3.1 Demographics of the Grandmothers

Participants	Age (years)	Year of migration to New Zealand	Highest level of education
Grandmother1 (GM1)	65	2006	Secondary (Samoa)
Grandmother2 (GM2)	69	1998	Tertiary (Samoa & New Zealand)
Grandmother3 (GM3)	85	2012	Primary (Samoa)
Grandmother4 (GM4)	78	1992	Primary (Samoa)
Grandmother5 (GM5)	70	1987	Secondary (Samoa)

Table 3.2 Demographics of the Daughters

Participants	Age (years)	Year of migration to New Zealand	Highest level of education
Daughter1 (D1)	41	2006	Tertiary (New Zealand)
Daughter2 (D2)	46	1997	Tertiary (New Zealand)
Daughter3 (D3)	59	1989	Secondary (Samoa)
Daughter4 (D4)	44	1992	Tertiary: Technical Institute (New Zealand)
Daughter5 (D5)	40	1987	Tertiary (New Zealand)

Table 3.3 Demographics of the Granddaughters

Participants	Age (years)	Year of migration to New Zealand	Highest level of education
Granddaughter1 (GD1)	19	2006	Tertiary (New Zealand)
Granddaughter2 (GD2)	20	1997	Secondary (New Zealand)
Granddaughter3 (GD3)	38	2010	Secondary (Samoa)
Granddaughter4 (GD4)	18	Not applicable/ NZ born	Tertiary (New Zealand)
Granddaughter5 (GD5)	18	Not applicable/ NZ born	Tertiary (New Zealand)

Participants were invited to participate only if they were involved in food preparations for the family and were 18 years of age or older. Food preparations included every aspect of what is involved in the process such as planning and selecting what and how to cook, how and where they accessed food from multiple sources and food shopping (including shopping for what is needed for cooking). Some participating families had more than one granddaughter in the family; the researcher asked the oldest whether she wanted to participate in the study. Some granddaughters did not want to be recruited in the study because they were either busy with end-of-year final examinations or it was inconvenient for them with their busy lives. In this case, granddaughters (second, third or the younger sibling) who consented to participate were interviewed. All participants were informed that their participation in the study was voluntary and their identities would remain confidential. They were also informed that if given at any time they wanted to withdraw from the study, they could do so without any obligation or concerns. All respondents were residents of the Manukau area in Auckland, New Zealand.

3.7 Selection method

The selection of the participants for this study utilised the snowballing recruiting technique (Streeton, Cooke, & Campbell, 2004). The snowballing method was more effective to have access to participants amongst Samoans connected through churches, school alumni and village subcommittees in the Manukau area. Many Samoans are associated with such social settings. Religious affiliations have been the focus of many studies in the Pasefika communities (Bell, Swinburn, Amosa, & Scragg, 2001; Hardin, 2015). The role of religion

in Pasefika peoples' lives, particularly Samoans', has been widely recognized in New Zealand as a *nu'u* (village) (Manuela & Sibley, 2015). Accessing participants from church and *nu'u* settings made it easier for the researcher to recruit Samoan women to participate in the study. The researcher also utilised the snowballing technique through other connections, whether from the researcher's village contacts or former school associates.

The effectiveness of the snowballing method enabled the researcher to acquire more willing participants to join in the study. A few participants who consented to participate heard about the study through 'word of mouth' and networking from church ministers and their associated congregational members. Most participants heard from other third parties such as various village associates who were connected with the researcher. Other participants heard about the study from the researcher's old school friends. The researcher had connections with community members who knew about their own village members and their families, which made it easier for the researcher to access potential participants for the study.

3.8 Semi-structured interviews

In the first round of the Delphi-Talanoa session, the researcher conducted fifteen semi-structured interviews (30minutes to 2hours) with the five participating families. Indicative questions (Appendices F1 and F2) were asked either in formal or informal language during the *talanoaga*, depending on the participant's age and status (Table 3.1, Table 3.2 and Table 3.3). Three members from the five families consented to participate in the study at their convenience. Participants were asked where they would most feel comfortable at

when being interviewed. Each participant had her preference of interview settings and the researcher complied with their requests. The grandmothers and the daughters mostly preferred to be interviewed at their homes, while most of the younger participants or third generation (granddaughters) asked if they could go elsewhere. One participating grandmother was more comfortable with working at her garden while the researcher engaged in the *talanoaga* (conversation) with her. Two grandmothers who shared their experiences of successfully pulling through from their stroke confidently talked about how their ‘change of diet’ and lifestyle choices led to their quick recovery. The same grandmothers believed that their ‘change of diet’ and spiritual faith helped them recover quickly from their stroke. One grandmother shared her experiences while sitting outside of her home, confidently saying that it was best to enjoy the air outside that would help her think more and also would help with her responses in our *talanoaga*.

The participants felt comfortable sharing their knowledge when the researcher used open-ended questions for the *talanoaga*. The researcher applied the conversational skills of the *talanoa* process and by being Samoan helped the participants felt at ease to talk freely about their lives and their families. This slowly led to their sharing of their understanding of the topic and responding to the questions that the researcher asked. This way of conversation in the *talanoa* process enabled the researcher to listen to participants’ personal suggestions. When the researcher was unsure of the participants’ responses she asked the participants to further explain what they meant in their replies. During the *talanoaga*, the researcher began by creating rapport in a conversational manner that enabled the

participants to share not just on the discussed topic. They talked openly about their lives, their experiences and expectations from ‘health professionals’ who the participants believed would help make changes in their community’s lives. The majority of the grandmothers and daughters, based on their understanding of the discussed topic, responded with vigorous passion when they talked about what they believed could be done in order to support their Samoan people. The participants especially the grandmothers and the daughters suggested and recommended (their own personal opinions based on their experiences on the topic) the ‘right way’ of trying to change the ‘norm of dietary habits’ that the Samoans were used to.

Each of these fifteen participants were given Participant Information Sheets (Appendices C1 and C2) and Consent Forms (Appendices D1 and D2). Parents of the two younger granddaughters (aged 18 years) were given Parent’s/ Guardian Consent Forms (Appendices E1 and E2) to sign in order for the two granddaughters to participate in the study. All of these documents (Participant Information sheet and Consent Form) were in English with Samoan translations. The participants were informed that they would not be in any way identified in the study but would be given pseudonyms to protect their privacy and confidentiality. On the first day of meeting each participant the researcher informed each person that she would be named according to their family number. For example, the first family member I interviewed was the mother. I informed the mother that she would be identified in the study as Family1 D1, and accordingly, this pseudonymised identification applied to all participants from each family, (i.e.) Family1 would have Grandmother1 (GM1), Daughter1 (D1), Granddaughter1 (GD1), and Family2 would have Grandmother2

(GM2), Daughter2 (D2) and Granddaughter2 (GD2), right down to the last Family5 and their three members. These pseudonyms are used throughout this thesis. The researcher (HNWS) also informed the participants that there would be two rounds of *talanoa* sessions.

On the first day of *talanoaga*, participants were again given hardcopies of the Participant Information Sheet and some grandmothers and daughters asked if the researcher (HNWS) could go through with the Participant Information sheet again, which the researcher (HNWS) did. Also, the participants were again provided with an explanation of what the Consent Form meant for both the participant and the researcher (HNWS). Given their consent to participate, they signed the Consent Forms (in Samoan or English, whichever language they preferred) and these were handed back to the researcher to keep. Interviews ranged from 30 minutes to two hours.

3.9 The Delphi-Talanoa process

Following the Delphi principles, the researcher conducted two rounds of *talanoa* with the participants. As there is no equivalent of food literacy in the Samoan language, the researcher asked questions that revolved around food literacy or in the components of food literacy. The researcher asked questions about food preparation, food shopping, accessing of food and who influenced family meals. A list of indicative questions approved by the AUT Ethics Committee was followed (Appendices F1 and F2).

The first round of *talanoa* enabled the participants to express their views on the research questions. It was an open *talanoaga* (conversation) between the researcher and each

participant to make the participants feel comfortable and at ease, and to share their beliefs based on their knowledge and experiences.

The researcher collated a summary of responses from each participant after Round 1 *talanoa*. The summary of the participants' answers was returned to the participants to review and provide oral feedback on the summary so that the researcher understood. This was the second round of *talanoa* between the researcher and the participants. From this process, the second round of *talanoa* led to the ability for the researcher to extract the main themes and subthemes of the study (Appendices G1 and G2). Figure 3.1 presents the methodological process which shows the steps undertaken from how I started this study, from how I started the study in terms of accessing the participants, the ethical approval for this study, the *talanoa* sessions process and the transcription and translation of the recordings from Samoan to English language, undertaking two rounds of the *talanoa* and lastly using the NVivo11 to assist in the coding and analysing of the findings. I analysed the data by individual participant, before exploring recurrent themes and subthemes by family. I then looked at the three generations across the five families (Figure 3.2) and extracted four main themes (Table 4.1).

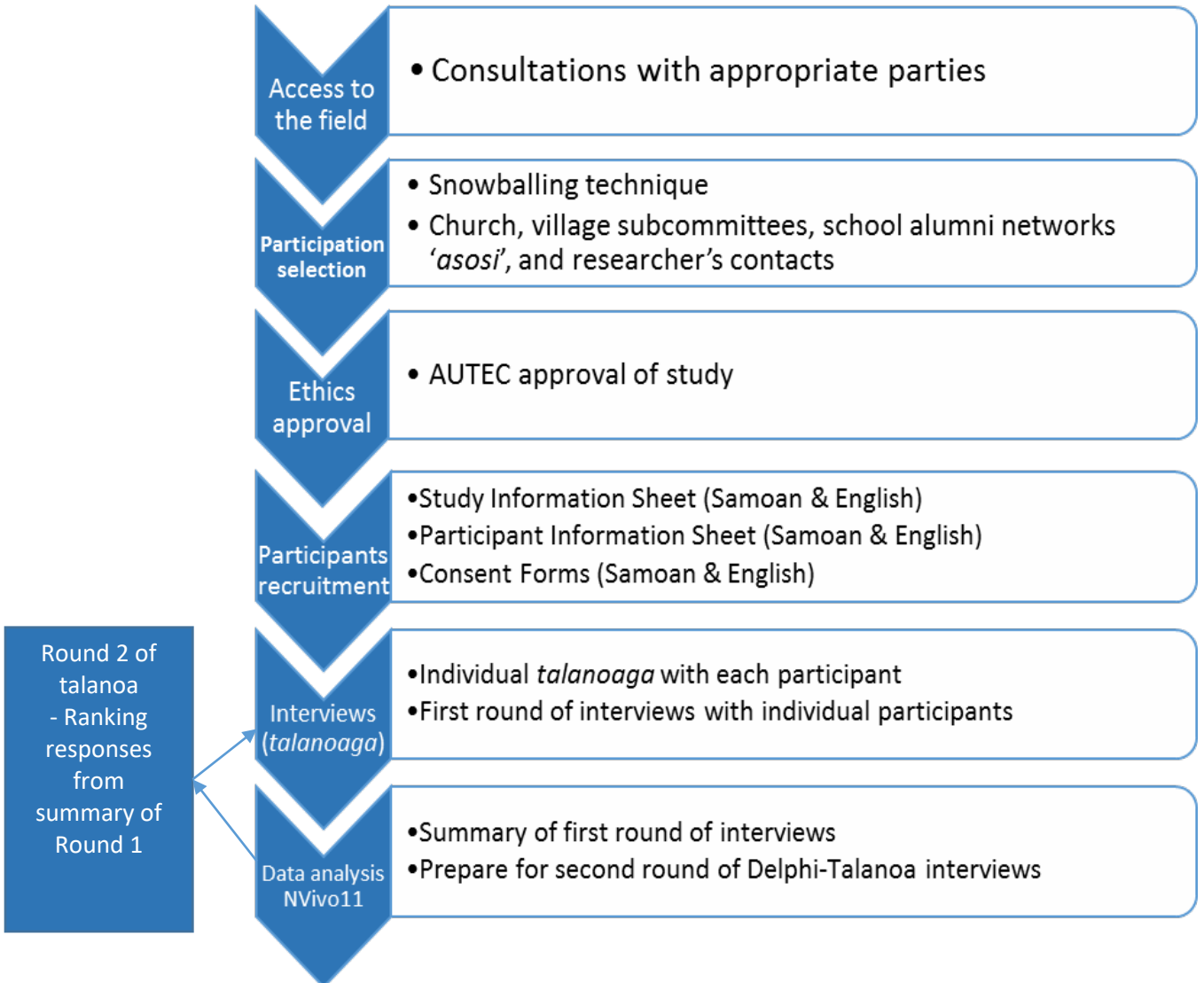


Figure 3.1 Overview of the talanoa process used

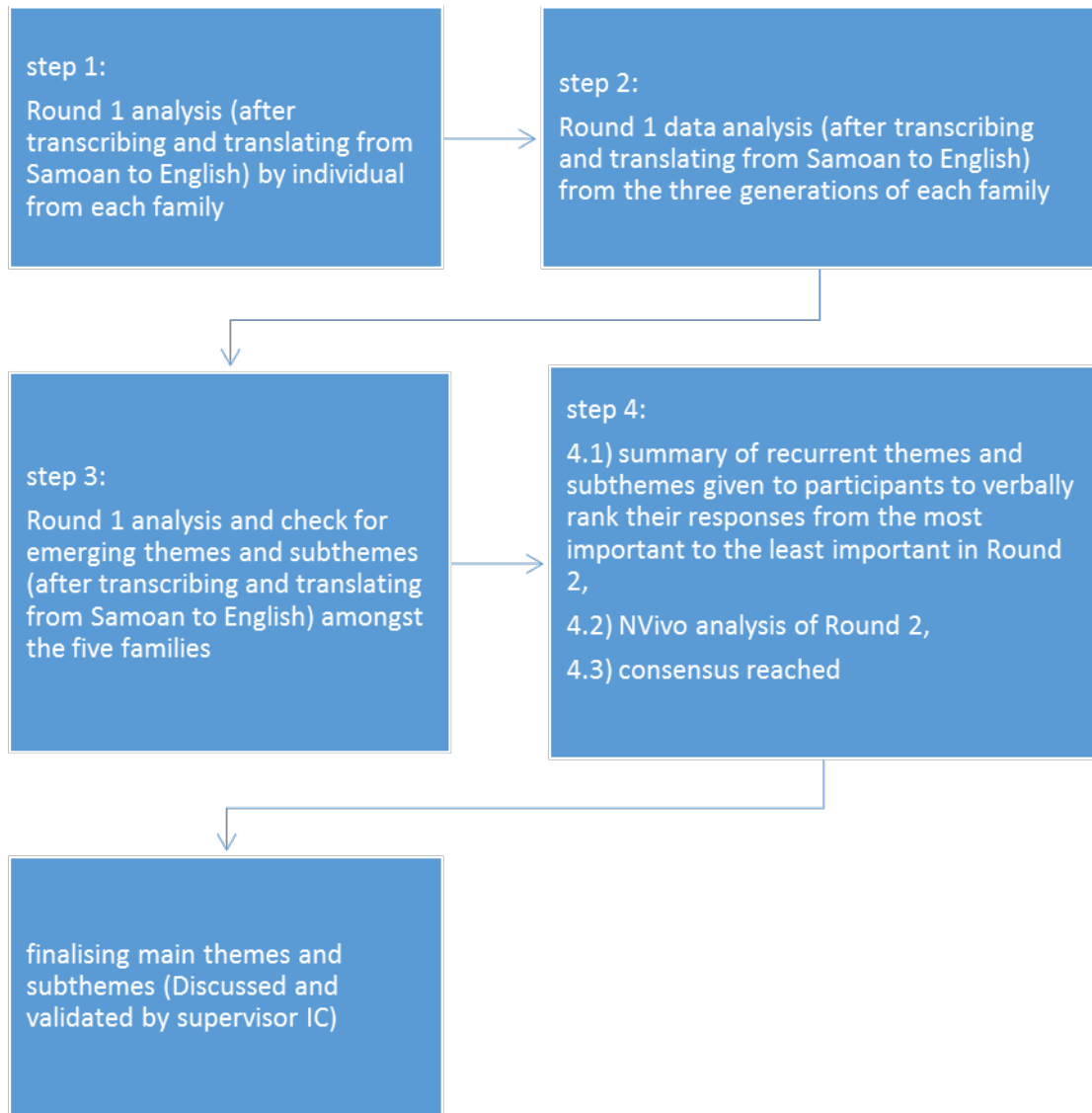


Figure 3.2 Overview of Round 1 and Round 2 data analysis

3.10 Ethics Approval

The researcher (HNWS) obtained approval for the study from the Auckland University of Technology Ethics Committee (AUTEC) before commencement. The protection of the participants, their human rights, their beliefs and cultural values as globally and nationally recognized, were of central importance for the researcher before the study instigated. AUTEC granted Ethics Approval on the 8th of July 2015 (Reference # 15/179) (Appendix A). The information sheets, consent forms and questions were translated to Samoan. I sought the help of Dr. Juliet Boon Nanai (04 April 2015, AUT) and Dr. Florina Chan Mow, a Samoan doctor at Middlemore Hospital (14 April 2015) to check my Samoan translations of any documents related to my study, including the indicative questions. Both had given suggestions on the clarity of questions and recommendations on how to *talanoa* with my participants. Dr. Nanai advised to use the Samoan translation of the Auckland University of Technology to Iunivesite o le Fa'atufugaga in my study documents. Overall, she said the indicative questions were good and she advised to consider the level of language that I was going to apply in my questions so that they would not be too technical and questions should be dependent on my target group. Dr. Florina Chan Mow gave similar feedback on my study documents and agreed that the questions were appropriate. She also advised on the appropriate approach to use with the participants considering the three different generations in the participants.

It is crucial for any researcher to consider ethical issues and practices when embarking on research. The researcher should always at all times practise and adhere to ethical values so

that all participants and their human rights are protected. Practising this will also protect the researcher.

3.10.1 Voluntary participation

All materials provided by the participant whether spoken or written must remain confidential and anonymous. The researcher (HNWS) made sure that the identities of all the fifteen participants remained confidential and protected from being known. The researcher (HNWS) informed the participants that participating in the study was voluntary and if they were to consent to participate they could withdraw without any obligations. The researcher (HNWS) did not use any persuasive language at the time of recruiting participants, from the beginning of the study and to its final second round of interviews. All participants received a Participant Information Sheet (Appendices C1 and C2) and a Study Information Sheet (Appendices B1 and B2), which were all in Samoan and English. All of these forms were approved by AUTECH (Appendix A).

3.10.2 Informed Consent

The researcher (HNWS) made sure that the participants gave their consent to participate in the study. They were provided with Participant Information Sheets and Consent Forms, in either Samoan or English languages dependent on the participants' preference. The participants were informed that they could take time to think whether they would want to participate in the proposed study and if so, they could sign the Consent Form and returned these to the researcher (HNWS). As stated before, the researcher (HNWS) also informed the participants that there would be two rounds of interviews and the participants were

happy to sign their Consent Form, agreeing to the second round of *talanoa*. The second Consent Form that the participants signed was also approved by AUTEC.

3.10.3 Confidentiality

As previously mentioned, the participants were provided with the required forms that explained their rights. The researcher (HNWS) has her responsibility of protecting all fifteen participants' and their identities, maintaining participants' confidentiality and anonymity from the beginning of the study to the last write-up. Despite conducting face-to-face *talanoaga* (conversation) with the participants, the researcher (HNWS) made sure that all material whether spoken or written including any recordings remained confidential.

The first and second rounds of interviews were conducted and the researcher could not avoid communicating face-to-face with the participants, as it was required for the study. However, the researcher made sure that every interview was conducted without other family members listening in. The researcher provided places for interviews for some participants while others wanted to be interviewed at their 'own' places of comfort. Other participants preferred their own homes.

3.11 Data Analysis

The digital recordings of all the *talanoa* sessions with the participants were transcribed by the researcher (HNWS). Most participants (13) preferred to use Samoan in their interviews so the transcripts were then translated (HNWS) from Samoan to English. Transcribing and translating the fifteen interviews into text files (Word, Microsoft) was the longest process during the analysis procedure. The researcher (HNWS) used NVivo11 (QSR International,

Australia) for coding the first and second rounds of *talanoa* which made it easier and less time consuming during the analysis process. Text files were imported into the NVivo11.

3.11.1 First Round of talanoa sessions

Participants were asked questions to assess their understanding of food literacy. As there is no equivalent of food literacy in the Samoan language, I asked questions that revolved around food literacy or the components of food literacy. For example, questions about food preparation, food shopping, accessing of food and who influenced the planning and preparation of family meals were asked. Questions were asked about healthy diet and what the participants' understanding of healthy diet meant for each individual. The first *talanoa* session was audio recorded.

The first round of *talanoa* was then summarised and categorised into recurring themes. This thematic analysis was discussed and agreed with the second supervisor (IC) who also read the transcripts. This summary of themes informed for the second round of *talanoa*.

3.11.2 Second round of talanoa sessions

Participants were asked to rank their responses from most important to least important. Most of the participants discussed their responses and most added more ideas when they thought that they missed out sharing more of their understanding. Most participants asked not to have their second round of *talanoa* recorded but allowed the researcher to write notes. They said that the second *talanoa* session was a restatement of the first *talanoa* session. NVivo11TM also aided the analysis and the finalisation of the themes and subthemes for the

final write-up. The second round of *talanoa* indicated saturation of input from all participants and this consensus was accepted as final themes and subthemes for the study.

3.12 Summary of chapter

This chapter has presented the overview of the Delphi-Talanoa research design used in this study. It has explained the rationale for the chosen qualitative research strategy, outlined the whole process of the study design and method, describes and justifies the data collection, data analysis and the ethical considerations that the researcher employed.

The next chapter will describe the findings for each family. It will explore the results that the researcher found from the *talanoaga* with the participants.

Chapter 4: Findings

4.1 Introduction

This chapter will discuss the findings for each family following four main topics, before moving on to a discussion of recurrent themes. The Vidgen and Gallegos' (2014) definition of food literacy was adopted, because it is not only about obtaining knowledge and understanding of food and related issues (Vidgen & Gallegos, 2014). It is also about culture and the sustainability of the environment (Cullen et al., 2015) and how these influence the perception of an individual or community in understanding of food and food-related information.

The Samoan participants in this study are strongly connected to their culture and this underpins their knowledge and beliefs. I am now going to discuss my findings per family under the four themes – food literacy, role of midwives and family doctors, beneficial effects of attending community health programmes and sharing information – family environment, and examples are given for each family.

From the first *talanoa*, words and phrases were transcribed, for each participant, into NVivo and coded. A reiterative, inductive analysis was undertaken by participant, for the three members of each family and then overall to identify subthemes and main themes (Appendices G1, G2). The four main themes derived were shared at the second *talanoa* with each participant and overall consensus agreed that these were all important aspects of

their understanding of food literacy. Further discussion reinforced the four main themes and emphasised the underpinning understanding of participants of the themes (Table 4.1).

Table 4.1 Round 2 of talanoa and confirmation of final four themes.

Food literacy	Role of midwives and health professionals	Beneficial effects of attending community health programmes	Sharing information – family environment
<ul style="list-style-type: none"> • Healthy eating is good for our health • We should have a balanced meal of more vegetables, less meat and starchy food • Read and understand food labels such as nutrition information, percentage labelling, used-by date, etc. • Confidence in doing food shopping (food labels) • Accessing good food but affordable and culturally appropriate food 	<ul style="list-style-type: none"> • Advice from midwives, GPs and health professionals on healthy eating and lifestyle choices • (including portion sizes and servings) • Explain how to read/ know nutrition information and food labels (what to look out for in nutrition information) • Advice on healthy and affordable food • Planning and preparation of healthy meals for the family • where and how to access food (culturally appropriate included) • Explain and advise on the association of diet and health (including pregnancy – if applicable) 	<ul style="list-style-type: none"> • Vaka Tautua, Toa Pasefika and other community programmes are effective in promoting healthier diet related information • Different health professionals available (emphasis on cultural, spiritual and language competent) • Free checks and group counselling/ workshops • (Blood pressure checks, diabetes, etc.) • Providing diet-related workshops (nutrition and physical activity) in Samoan • Working together in groups (exercise and diet-related issues) • Individual consultation provided (if needed) • Clarifying more on community members’ questions/ raised issues • Information on where to access ‘good’ food that are affordable (including culturally appropriate food) 	<ul style="list-style-type: none"> • Daughter (second generation) influences the knowledge of grandmother, granddaughter and extended family) • Daughter helped grandmother and granddaughter understand food labels • Daughter helped family understand more about healthy eating and lifestyle choices (including making food and lifestyle changes) • Grandmother influenced cooking and food preparation (basic knowledge of preparation) • Granddaughter helped grandmother and other family members with shopping for healthier food choices.

For clarity, frequent phrases and concepts that informed the themes are summarised.

I am now going to discuss my findings within each family under the four themes – food literacy, role of midwives and family doctors, beneficial effects of attending community health programmes and sharing information – family environment examples are given for each family.

4.2 Family 1

4.2.1 Food literacy

This family's understanding of food literacy was a collection of components of 'food literacy' as previously mentioned (Vidgen & Gallegos, 2011b, 2012). Family1's main source of knowledge was D1, who greatly emphasised the important role of midwives in increasing D1's understanding and skills of food and related information.

Family1 had started practising healthy eating and making it their daily lifestyle practice from when D1 first gained advice from health professionals in New Zealand. The participants not only planned and managed what they cooked for the entire family but also had joined the gym to maintain a healthier lifestyle in their household. GM1 mentioned the recommendation of brown/wholemeal bread in her diet:

O lea fa'akoā fa'amamalu mai iigei i Giu Sila le falaoa egaega. Ao aso la i Samoa e pei o le falaoa pa'epa'e lava kakou [laughs]...E magaia le mea lea e fai e kagaka o le Soifua Maloloiga, auā kakou ke maua ai le kigo malosi ma le ola maloloiga lelei.

The brown bread is highly recommended in New Zealand. But in Samoa in the past we were used to white bread [laughs]...What the health professionals are doing is good, because we can get strong bodies and good health (GM1)

All three Family1 participants expressed the importance of considering the extended relatives in the household when it came to family meals especially if the extended family members were ‘elders’. As previously stated, Samoans have high regard for their elders: their grandparents and other older family members who are known to be ‘*matua matutua*’ (elders). D1 said that most of their family meals were based on GM1 and other older family members’ preferences.

O makou kuka e fua lava i lo’u kiga ma o’u makua makukua foi...o makou makua kausi ga.

Our family meals are prepared according to what my mother wants and...family elders that I take care. (D1)

D1 said that she initially made changes in her family meals and also ‘convinced’ GM1 to accept these changes in their family meals. GD1 said that she observed how her ‘mother’ (D1) and ‘nana’ (GM1) prepared family meals. GD1 said that when her family started making changes by preparing healthy meals, it was D1 who had the most influence on GD1’s understanding of healthy food and she also joined the gym with D1 and other family members. GM1 described what healthy eating consisted of and she strongly expressed the importance of a balanced meal that would protect any individual from diet-related diseases.

E lelei. O ikuaiga o meaai ia e ave iai fualaa. E pei la o le pisupo, ia e ave ese le ga’o ae ave iai kapisi ma le agiagi ma kamako. E aoga mo le kigo maloloiga...O le kele lava o kagaka ia e mama’i ma pupuka o le kele o le ga’o ma mea lololo ma meaai foi ga le sooga ‘ai e iai mo mea o kalo, o meaai mamafa fa’apega, lea ua kele ai kakou kagaka Pasefika ua maua i ma’i ia ma lapopo’a ai.

It’s good. Those kinds of food that we add vegetables in. Like corned beef, you take out the fat and add in cabbage and onion and tomatoes. It’s

good for a healthy body...Those who suffer from chronic diseases and become obese it's from too much fat/oil and fatty food and over eating food such as taro, those starchy foods, many of our Pasefika people are suffering from it and become obese. (GM1).

When discussing food labels, GM1 said that she would only look at the expiry date of food products instead of the nutrition information. This was common in most of the participating families especially for the first and third generation participants. The date marking on food products was easy to comprehend for most of the participants across the five families. GM1 indicated that she would only check the 'expiry date' of food items before buying them.

A fai lava a'u fa'akau ou ke siaki ga o le aso e ka'u mai ai e gaka ai le lelei o meaai ka ke fa'akaua ae ou ke leiloa la uiga o upu ma gumela ga e iiga. O la'u kama...e kalagoa mai e kele le masima i kokogu o lea meaai, e pei o le falaoa a. Mea lega ua ou koaga ai e ai falaoa egaega auā ga fai mai e sili aku gai lo le falaoa pa'epa'e.

I look at the expiration date when I go shopping but I don't know those words and numbers [pointing at multigrain bread NI]. My daughter...says there is too much salt in this, like the bread. That's why I always eat brown bread because she said it's healthier than white bread. (GM1)

Despite mentioning the difficulty of understanding technical language on food labels, Family1 participants stated that they still made the effort to start eating healthy and make better food and lifestyle choices. D1's indicated in her statement the benefits of practising healthy eating in relation to her family meals:

Ua oka iloa a vaikamigi kaua ma mea foi ia e aogā mo le kigo pei o le falaoa egaega lea ae e lē lelei le falaoa pa'epa'e. Mea lea o le faipa ma le masima po'o le sodium e fa'aikiikia.

I know the important vitamins and nutrients that are essential for the body such as this brown bread [showed wholemeal bread from pantry] but white bread is not good. Things like fibre and less salt or sodium. (D1)

GM1 and GD1 relied on D1 when it came to reading food labels such as the nutrition information (NI), ingredient list (IL) and percentage labelling (PL). This practice the three participants shared with other family members of their household. Having difficulty in understanding food labels was a barrier to GM1 shopping for healthy food products. However, the same applied to D1 before she learned to better understand food labels thanks to advice received from her midwife and family doctor.

Ka ke lē i malamalama kele i le amakaga. O le su'esu'e lava iga ua kalagoa mai foma'i pei o a'u midwife e uiga i mea kau nutrients ma mea oloo i kua i.

Before I didn't understand it. When the health professionals such as my midwives informed me I started researching things like nutrients and what was on the back here [pointing at NI of brown bread]. (D1)

Family1 saw the Heart Foundation Tick as a 'food label' which enabled them to buy the 'healthy foods' that they believed were recommended by health professionals. The pick of the 'Tick' for Family1 was initially D1's idea when shopping for food as she got the idea from her midwife and dietitian. D1's understanding of health promotional messages had influenced her to change her dietary practices which included shopping for healthier food choices and being encouraged to read food labels, including the Heart Foundation Tick on the food she bought.

E kele lava ga ou faikau i le faipa ma le sodium...a high le faipa e kele lava ga ou kago aumai. Auā o le sodium...o le kele o le masima...o le kele

o kaimi o mea ga ka ke kilokilo iai pe ka ke vaai i le TICK foi lele lea e fai mai ai le Heart Foundation lea e i luga o yoghurt ma meaai fa'apega.

I look at fibre and sodium more...I buy if it is high in fibre. Because sodium...it is how much salt...I look more at those or I look for the TICK on yoghurt and food like those that the Heart Foundation promotes. (D1)

GD1 said that D1 explained to her how to read nutrition information which led to GD1 becoming more confident in doing the food shopping for her family. GD1 mentioned looking out for 'how much salt and sugars' in the food she bought. Moreover, GD1 was aware of food that was high in fat and was aware that she should buy less of this or avoid it altogether.

I always try to be on a healthy diet...like shop for food that wasn't salty and try to avoid eating fatty fried food [laughs]... Yeah, I would say like a steak, ...mashed potatoes and half vegies. But it was mum that always tell us to buy this type of food because it's good for our family. And she would growl us if we buy junk food and fizzies. (GD1)

The three participants made healthier changes because of their life experiences. Family1's experiences ranged from GM1's stroke and D1 being diagnosed with gestational diabetes and other relatives having suffered some lifestyle-related illnesses, which motivated all three participants to make healthier changes for themselves and the family. D1 explained why her family had implemented changes for a healthier lifestyle.

Kalu ai le ma'i o si o'u kiga lea ga stroke ai, e pei o iiga ga amaka lu'i ai a'u ia ou kaumafai ia lelei ma maloloiga meaai e aai ai lo'u aiga...o iiga foi ga iloa ai e lo'u aiga akoga le kaua o le 'ai i meaai palegi ma fa'agaioi lava le kigo... 'e iai isi o'u kagaka o le makou aiga ua maua i ma'i e mafua mai lava o le 'ai kele ma le lē fuafua lelei...o le isi mea ga faukuaiga foi a'u e la'u fomai ma a'u midwives ua ou maua ile ma'i suka iga ua ou ko lega.

When my mother had a stroke, from there on I started to motivate myself to make healthy changes in my family. And my whole family saw the importance of eating a balanced meal and be more physically active...because I have relatives who have been diagnosed with chronic diseases because of their diet and not eating right and balanced portions...and my doctor and midwives advised me about my gestational diabetes. (D1)

GD1 saw GM1's condition and how other relatives were diagnosed with chronic conditions and this encouraged GD1 to make healthy diet a practice for herself. The most common diagnosis amongst Family1's relatives was either diabetes or high blood pressure or both. This was true for most of the families in this study.

4.2.2 Role of midwives and family doctors

Family1 said that their health professionals played a huge role in their understanding of healthy diet and making lifestyle changes in order to maintain good health. The key informant was D1 who had most of her information from her midwife. D1's midwife emphasised to D1 the importance of healthy eating during her pregnancy. Other health professionals included family doctor, dietitian and diabetes nurse were mentioned. D1 had more access to different health professionals who helped her understand more about food and its impact on her health during her pregnancy.

Advice from the health professionals motivated Family1 to know more about food, and how to navigate the various food sources to access healthy but culturally appropriate daily food. According to D1, she gained knowledge and understanding of food and its association with health during her consultations with health professionals such as midwives, the family doctor, dietitian and other health professionals who work in the community. Examples of

health advice that D1 received was how to read nutrition information (NI) and recommendation of brown/wholemeal bread.

O kaimi ga ou ma'i ko ai, sa pei o le kaimi lega ga kele ga fai ai sessions a midwives ma fafige kokō i meaai palegi ma le faiga o meaai i le preparation ma mea ga e 'aua le mix iga i kei ma'i ai...pei o le isi kaimi ga kele ga oka mauaiga ai information. Ma e faukua mai lava i polokalame oloo faia gei e le vaega o le Soifua Maloloiga i le komiuniti e fa'alauaikele akili ai foi le malamalama ile ola maloloiga lelei mai polokalame ga.

O mea ia 'e faikau ma e kakau ga 'e iloa mea 'e lelei mo a'u ile kaimi ga ou ko ai. O a'u midwife ma la'u foma'i fa'aleaiga foi ga fa'asigo ma fa'amakala maia ia ke a'u ga ou malamalama ma mafua ai ga iloa ai foi fuafua le 'ai lakou. (D1)

During my pregnancies, there was a lot of sessions with midwives and pregnant women about balanced meals and cooking food such as preparation and things that should not be mixed in food or you would get sick. That was the time I got more information. They also advised me to attend community health programmes that some health professionals provided services to help improve knowledge on healthy lifestyle from those programmes.

Reading this [referring to brown bread NI] and knowing what was good for me when I was pregnant. My midwives and family doctor showed and explained these making me understand and I got to eat in moderation. (D1)

D1 was able to share this information with GM1 and GD1 and the rest of her *aiga*. Thus, multiple health professionals had a significant influence on helping Family1 ensure that their dietary intake contributes to their quality of health and also where they could access these foods that meet their daily nutritional recommendations. D1's statement is a representative of statements made by Family1 participants:

Ua oka malamalama foi a i mea e aogā i le kigo ma oka kaumafai a lea e fa'akau mai mo mea kai pei o falaoa egaega, ia o fualaau. Ka ke iloa o mea ga e maga'omia e le kigo ae lē o ulupua'a ma mea lololo fa'apega.

I understand what the body needs and I try to buy things like brown bread, vegetables. I know those are what our bodies need but not pig's head and those fatty foods. (D1)

The use of the Samoan language during consultations with health professionals helped GM1 understand more about food and the need for her to make changes in her dietary and lifestyle choices in order to recover from her stroke. D1 said that having health professionals who spoke Samoan was 'good' to influence GM1's understanding of GM1's condition and would also allow D1 to continue making healthier changes at home. Both GM1 and D1 emphasised the importance of a healthy family, especially their children whom GM1 and D1 see as their *lumana'i* (future). This was a common finding in all the participating families in this study. GM1 expressed the importance of having health professionals who spoke 'her language', who would also understand her during consultations.

Oloo fa'amakala mai lava e le foma'i pe a o e vaai o ā meaai e kakau ga 'aai ai 'e maua ai le kigo maloloiga ma malosai ai foi. E lelei le kalagoa i o kakou kagaka auā o lakou la e malamalama i aka kala la e fai aku iai, a ea?

The doctor explains things to us during consultations regarding food that we need to eat which will give us good health and energy too. It's good to talk with our own people because they are the ones who understand what I tell them, right? (GM1).

The recurrent mention of 'not understanding food literacy' or 'have not heard of food literacy' was common in the *talanoaga* with most of the participants from the five families.

However, having access to different health professionals who could speak Samoan enabled Family1 to understand healthy eating practices and incorporate this in their daily lives. D1 summarised Family1's reponses:

A 'e vaai i kala ia e fai mai e uiga i meaai ia kakou ke 'aai ai, o le faipa, sodium, e mo'i a e faigaka ile ko'akele o kakou kagaka ga iloa po'o a ga mea. E lelei lava le iai o kagaka ua lava le komai i makaupu fa'apegei e fa'akakau ile soifua maloloiga o le kagaka e fa'amalamalama lelei i o kakou kagaka.

If you look at how they tell us about the food we eat, fibre, sodium, but many of our people would find it difficult to understand what those are. It is best to have people who have specialised knowledge in health to explain to our people. (D1)

When it came to understanding food labels, four grandmothers in my study and some of the other two generations recounted similar experiences. GM1 said that when they went shopping for foods, she would not look at nutrition information panel (NIP) because she could not understand it. GD1 stated that the influence her mother (D1) had on her understanding of food labels such as reading the nutrition information on food products increased her knowledge of food and what to buy. GD1 started learning from D1 about diet-related problems she was trying to avoid because many of their relatives faced these. She later gained more information about food and its impact on health from family doctor. GM1's health (stroke) led to a 'family meeting' with health professionals who advised the family of the need for lifestyle changes for GM1 and this encouraged most of Family1 members who attended that 'family meeting' to make healthy changes to improve their

quality of health. Again, D1, who was GM1's primary caregiver was the one who initiated the 'healthy lifestyle changes' in the family that led other relatives to follow suit.

4.2.3 Beneficial effects of attending community health programmes

Community health programmes had a role in equipping Family1 with more understanding of healthy eating and lifestyle choices. Again, the Samoan language used in these community programmes was a benefit to GM1 because she could easily understand what 'changes' she needed to make in her dietary intake and lifestyle choices.

GM1 said that her family doctor highly recommended joining community health programmes and that 'advice' led GM1 to attend the Toa Pasefika programme. GM1 said that she was encouraged by her family doctor to learn more about ways to maintain good and healthy lifestyle and these community programmes could deliver those health messages in the Samoan language. GM1's stroke motivated her to make healthy changes in her diet and lifestyle in order to improve her quality of health. It was not just for herself but for her family especially her grandchildren which D1 explained:

A kuka aku foi meaai ia 'e maga'o mai lava le lo'omakua e fai kuka e fiafia ai foi la'u fagau e 'aai ai.

When I cook, my mother would ask that I prepare food that my children would like to eat. (D1)

GM1 said that she not only gained food-related information but she was also joining in the exercise programmes that helped her to be more physically active. She was able to make new friends among people who were attending the Toa Pasefika community health programme and this also motivated her to continue to attend.

‘O lea ua iai mea o polokalame a le komiuniti ia a le Toa ua fa’amakala mai e kagaka o le Soifua Maloloiga, ia a o’o ga fai laka kuka ou ke kago ave ese muamua mea o ga’o. E kikipi ese ga’o o mamoe ma mea o ga’o foi ga e o pa’u o moa ae fai ai le supo. Ia e ave iai mo mea o fīu ia ma fuālaau.

Health professionals at the Toa community health programmes [Toa Pacific] are telling us, if I cook then first I take out the fat. I cut out the lamb flap fat and fatty chicken skins when I make soup. Then I add in ginger and vegetables. (GM1)

D1 said that having GM1 joined the Toa Pasefika made it easier for D1 to continue making healthier changes at her home. Since GM1 influenced what family meals to prepare, the community health programme made it easier for GM1 to accept the need to make healthy changes in their family meals. Having health professionals who spoke the Samoan language in these community health programmes motivated GM1 to regularly attend the Toa Pasefika programme. One of the benefits of having joined these community health programmes was being able to have health clinics such as blood pressure and diabetes checks for attendees, with some caregivers were also invited to join in. This was a common finding from all the grandmothers and their families who were attending health community programmes.

4.2.4 Sharing of information – family environment

As stated before, D1 was able to share with her family what she had learnt from various health professionals she consulted with during her pregnancies. This indicates the significance of family influence especially for the ‘mother’ to play her maternal role in influencing her family’s dietary intake and lifestyle habits. GD1 confirmed that her

mother's (D1) influence encouraged her to look at highly recommended food that had been endorsed by health professionals and health organisations such as the Heart Foundation.

My mum showed what she heard, like that Tick from the Heart Foundation that is good for your heart, those foods yeah. And look at the words 'more grains' in bread or wholemeal that is good for our family. (GD1)

D1 was able to share the knowledge of healthy eating and lifestyle practices she had gained from her midwife and other health professionals her family. This led to most of her family members, including GD1, joining D1 at the gym and practising healthy living, which GD1 explained:

I hear this [pointing at the bread's NI] from mum. When I go shopping with her. She knows about these because she joined in the exercise group and she also said she got it from doctors she saw...I try to change and be more healthier coz everyone is like you have gained weight...I try to make changes to go on a healthy diet. That's why I go with mum to the gym and her exercise group workouts too. (GD1)

GM1 said that she had known about 'not over eating' but when it came to specifics such as the foods that she needed to avoid or eat less, she relied on D1 and GD1. GM1 said that previously she would cook 'big pots of food' for her family but ever since D1 encouraged and advised GM1 on the need for healthy meals for the family, GM1 accepted D1's advice. GD1 said that her mother (D1) explained to her the need to eat healthy food in their family. GM1 initially learned from D1 about healthy eating and healthy cooking for the family before she got information from the family doctor and also the health programmes that she attended with GM1 and D1 from the time GM1 had her stroke. All this became a family

practice for GD1 and her siblings and the rest of the family. D1's statement indicated the importance of sharing food and health-related information with family members.

O isi e o lua le lē malamalama i fa'amakalaga oloo fa'alauiloa mai ia pe lē fa'aSamoa mai foi e fa'akakau i le ola maloloiga...O kakou o le uiga lava e fia maua ma le mafuaaga ae lē kele ga fesili...E kava le fa'asoa i o kakou lava aiga aua o kakou lava kagaka i aiga e iloa loa le mea e kakau oga fai e mafai oga o aku kalagoa aku i lakou uo ma le aiga pokopoko foi ma le auloku ile mea e kakau oga fai e ola maloloiga ai le kagaka ma loga aiga.

Some people don't understand the health messages or why not deliver in the Samoan language...For us we want to know the meaning and the reason but tend not to ask too many questions...It's important to share with our families because they need to know what to practise and they could share with their friends and other extended relatives or church about what to do in order to be healthy with their own families. (D1)

In brief, Family1 participants stated that D1 was their main source of information and D1 also initiated healthy eating and healthy lifestyle choices such as being physically active in their home.

4.3 Family 2

My findings for Family2 were similar to those for Family1 in that health professionals such as midwives, GP and other health professionals were the source of information about healthy dietary intake and related information.

4.3.1 Food literacy

Family2 had the advantage of knowing what 'food literacy' meant because GM2 understood it. GM2 shared her knowledge with her daughter (D2) and granddaughter (GD2) and the rest of the family. GM2 explained the importance of being food literate as follows:

Yeah, knowing how to buy and where to buy food from. I think *e kakau a* (it's a must). It's knowing how to buy from the shop. We go to the shop we have to look at the ingredients of things on the labels. You have to look at the labels and check. Check the expiry date. Check what's in it. Check how much sugar, *o le sodium ia* (even sodium), check how much fat. Check how much whatever ingredients I would use for *i meaai ga* (those food). That's how I buy things from the shop. (GM2)

The importance of maternal influence in the *aiga* was emphasised by the three participants. The only difference was that GM2 was seen as the one who had more influence in the family and mentioned often by D2 and GD2 as their main source of information on food literacy and healthy eating for the entire family in Samoa and New Zealand. An example of this was GM2 emphasised 'personal choice' when it came to food and eating. GM2 also highlighted the importance of having the right portion sizes and servings.

O a'u a ia, I do it myself, I always have choice. Choices of things to buy what to buy and what not to buy. *O mea ou ke kago fa'akau ia e fai ai a makou meaai ma o le filifiliga lava a le kagaka le kele o aga mea e 'ai, a ea? Ae lē o le so'oga 'ai ia e kele ai foi le ma'i lakou ia.*

To me, I do it myself, I always have choice. Choices of things to buy what to buy and what not to buy. I buy what we need for our cooking and it is a person's choice with what he/she eats, right? But he/she should not eat too much because it can lead to illnesses. (GM2)

GM2 also emphasised the importance of having a vegetable garden, which was a practice she brought from Samoa when she moved to New Zealand. GM2 initiated healthy diet practices in the family and having healthier lifestyle choices. She saw her vegetable garden as a hobby but also working in the garden was her form of physical activity. GM2 also stated that having a vegetable garden was cost-effective and she would not rely too much on buying expensive vegetables from the shops because she could plant her own vegetable

garden at home. GM2 stated the importance of dietary diversity, by including vegetables in her cooking:

It's good because of different nutrients that is used in your body a, o nutrients *ga lea e maua mai i meaai ka'ikasi, e pei o le iron, o le calcium, o le aogā ia i o'u maka, e maua ai vitamins eseese, e aogā mo o'u pogaivi.* It's good for the body and blood.

It's good because of different nutrients that is used in your body, those nutrients that we get from the different foods, such as iron, calcium, it is good for your eyes, you will also get different vitamins that are good for your bones. It's good for the body and blood. (GM2)

D2 said that she did not hear about 'food literacy' but she did sometimes practise healthy eating. Based on D2's *talanoaga*, she was similar to Family1 participants who were not familiar with the concept of 'food literacy' but were aware of components of 'food literacy' such as healthy eating. For Family2 this ranged from where to access food and prepare healthy meals for the family. D2 learned from observing GM2 how to cook and prepare family meals. D2 was sometimes involved in helping GM2 in working in GM2's vegetable garden. D2 explained the importance of checking food labelling:

You know labelling food is good and try to start reading on those (pointing at the NI on the juice bottle) so that I can understand whether it's healthy or not. (D2)

GD2 emphasised the important role that her 'nana' (GM2) played in her learning how to prepare healthy meals for herself and the family. GD2 was exposed to this healthy practice first-hand when GM2 cooked healthy meals for the family. GD2 continued on with this healthy practice when she was pregnant and also when she became a mother to her daughter.

GM2 had the advantage of tertiary education in nutrition and as a daycare teacher, which placed her above the rest of the first generation in terms of understanding food literacy and its benefits for herself and the family. GM2 stated the importance of the nutrition course she had attended.

I've seen it. I've studied it. *Sa ou study ai. Sa fai la'u* Community Nutrition paper *ile* USP (University of the South Pacific). *Kusa o le extension o le* USP from Fiji in Samoa.

I've seen it. I've studied it. I studied it. I did a Community Nutrition paper at the USP (University of the South Pacific). It was an extension of the USP from Fiji in Samoa. (GM2)

GM2 knew how to read food labels including nutrition information and percentage labelling. She emphasised the importance of having her nutrition qualification and also being involved in food preparation at her workplace where she was able to learn more about healthy food for the daycare children. GM2 believed that her tertiary education helped her understand food and its link to her health and then practised healthy meal preparation at her home. In addition to her own education, GM2 said that courses for personal development at work with food preparation had also increased her knowledge and understanding of healthy diet for the children at daycare. GM2 shared about her husband who preferred sugary drinks to water, which was not a good influence on her family, especially their grandchildren and great-grandchildren. Seeing that her husband had a love for sugary drinks, GM2 continued to advise her family and made sure she prepared healthy meals in order to teach her family to adopt more healthy eating and lifestyle practices.

4.3.2 Role of midwives and family doctors

All Family2 participants emphasised the important role of multiple health professionals who contributed to their individual understanding of healthy food and lifestyle choices.

GM2 said that health professionals were important in explaining more about the impact of food on health. She believed that she already knew about that link but she still acknowledged the information provided by health professionals to make her own family, including her husband, understand the importance of having a healthy diet and avoiding sugary drinks. Despite her efforts in trying to influence her husband, GM2 said that she still wanted health professionals such as their family doctor and dietitian to keep discouraging her husband from buying such sugary beverages. She believed that if she could not convince her husband then she could rely on their family doctor to advise him against his 'love for fizzy drinks'. GM2's statement indicated her husband's shopping behavior:

O lo'u ko'alua a alu e fa'akau e 4 faguigu, soo se ikuaiga, o le fala, o le mago. E fai mai a ia e healthy a, ae fai aku iai la'u kala e le healthy ga mea. Ua ou fii e fai aku iai e le kea...e moi e iai le sua, but it's mostly suka. I always advise my kids of those unhealthy drinks auā e leaga ai gifo.

My husband buys 4 sugary drinks, different flavours, pineapple, mango. He says it's healthy, but I tell it's not. I have told him many times but he doesn't care...it's true that they have natural fruit juice in them, but it's mostly sugar. I always advise my kids of those unhealthy drinks because it causes tooth decay. (GM2)

D2 believed that sessions with health professionals such as midwife and family doctor also provided her with information on food and the need to practise healthy eating and be physically active. D2 also mentioned working at the hospital and that her friends who were

health professionals, advised her on a healthy dietary intake and lifestyle practices. Such health advice enabled D2 to understand more about food and make changes in her food shopping. D2 said that health advice led her to be more motivated to read food labels, such as nutrition information, when she did her food shopping for the family. D2 also acknowledged the role of midwives including her daughter's (GD2) midwife. GD2 explained her daily practice of continuing with her healthy meals because of her daughter.

When I was pregnant...I tried my best to eat good food for her (pointing at her 2month old daughter) ...eating heaps of vegetables, fish, chicken and stuff...in the right amount because I don't want to over-eat (GD2)

D2 said that these health professionals advised on preparing healthy food and exercise in order for herself and also GD2 to have healthy pregnancies. Since GM2 and D2 were involved in GD2's pregnancy care, they all learned from advice given by the midwife and the family doctor on how to maintain a healthy pregnancy for the granddaughter (GD2).

GD2 said that apart from learning from her 'nana' (GM2) and mother (D2), she also learned from her midwife and family doctor. GD2's consultations with these health professionals during her pregnancy encouraged her to make healthy changes in her food and lifestyle choices. She emphasised her life-changing experience of being a 'mother' herself motivated her more to make these changes and listening to her midwife mostly drew her to practise healthy eating and engage in physical activity. One piece of advice she received from her midwife was to try and maintain a healthy diet and body weight. GD2's midwife highly recommended healthy eating by having a variety of nutritious foods in the

right portions and exercise in order to have a healthy pregnancy. GD2's midwife advised her that her choices could affect her baby's health so it encouraged GD2 to be more active in her healthy eating practices and physical activities at home.

4.3.3 Beneficial effects of attending community health programmes

Family2 participants mentioned the benefits of attending community health programmes which helped increase their knowledge and understanding of food and related information which they shared with other relatives in Family2. The use of the Samoan language in the community health programmes was one of the advantages that GM2 and D2 agreed on.

GM2 said that she encouraged her family members to join in these health programmes especially her husband. Community health programmes offering nutrition advice or group exercise activities, and awareness of the impact of sugary food and beverages were all beneficial. According to GM2, discussions on nutrition and most importantly on the detrimental effect of sugary drinks would benefit her husband and her extended family. GM2 said that having health programmes her husband could attend might help him to learn more about healthy eating and to avoid buying sugary beverages.

Magakua o polokalame ia e fai lava e le community e faalauiloa mai ai foi le ola maloloiga a. E fai mai lava, Ia knowing that to have to eat nutritional food, you know how to eat, to make a balanced diet, when to eat and how much to have to eat.

Remember at the community health programmes they promote healthy lifestyle. They promote knowing that to have to eat nutritional food, you know how to eat, to make a balanced diet, when to eat and how much to have to eat. (GM2)

GM2 believed that different health professionals from community programmes would be able to advise her husband on the negative impact of fizzy drinks on his health. GM2 believed that such advice would convince her husband to avoid his “favourite drinks”. Since such programmes had influenced other relatives’ understanding to make healthier choices in their home, therefore GM2 supported and encouraged her husband to also attend.

D2 said that sometimes she would attend community health programmes where they hosted exercise programmes for the public. Some of these programmes would either be at the swimming pool or community hall where they would do Zumba or other dancing sessions at which they would pay ‘a gold coin’ or sometimes it was free. Some programmes had clinics which had weight and blood sugar checks. It was easier for D2 to join in as it was convenient after work and near her home. Other family relatives had made changes after joining these community health programmes. These relatives reported on their progress and on how health professionals provided them with personal guidance and information and this also had motivated D2’s relatives to attend these community programmes. D2 said that most of her relatives enjoyed these programmes because they did not have to ‘book appointments to see doctors or nurses’ since the clinics were open to anyone attending these programmes. D2 also emphasised the importance of attending these programmes because health professionals spoke Samoan language to the attendees when delivering their sessions.

*E lelei le iai o foma'i poo gisi o le Soifua Maloloiga mai polokalame
eseese a le community lega e iloa fa'aSamoa e fesoasoagi ai foi e
fa'amalamalama information gei i o kakou kagaka.*

It's good to have doctors or health professionals from different community health programmes who know Samoan language to help explain this information to our people. (D2)

As stated, GM2 and D2 encouraged GD2 to stay healthy in order to have a healthy pregnancy. GD2's pregnancy motivated her to make healthier changes and attending exercise programmes at their community hall was one of those personal choices she made to stay healthy for herself and for her unborn child. GD2 said that she was not really into being healthy before but seeing her elders and other relatives making an effort to practise healthy eating and do physical activities, encouraged GD2 to follow suit. Her life experiences such as her pregnancy and having relatives who were diagnosed with diet-related diseases motivated GD2 to attend these community health programmes to learn more about healthy lifestyle choices and her 'pregnancy diabetes'. Exercise programmes delivered by these health programmes helped GD2 to maintain a good weight as she was learning to eat 'good food' and avoid the 'junk food' that she loved to eat.

4.3.4 Sharing of information – family environment

Sharing health information in promoting healthy eating and lifestyle choices was important to Family2. GM2 felt that it was important to learn from each other because families were expected to care for each other especially in terms of health and wellbeing.

GM2 learned about cooking from observing her mother and female relatives in Samoa. In terms of healthy eating and preparation, GM2 said that she had the advantage of her nutrition education, which she shared with both immediate and extended families. She shared with her daughter (D2) when they worked in her 'vegie garden' where she showed

her children, grandchildren and great grandchildren the benefits of growing their own food. This indicated the importance of dietary diversity that Family2 was practising, which was common in most families in this study. GM2 explains where she obtains her vegetables.

E ke magakua foi Samoa a leai se vegetable ia e mafai oga e fa'agoi i lou kuaoi poo kagaka o le gu'u a...A leai sa'u vegetable ou ke alu i fafo aumai ai, aua o luma i iiga e fai ai lo'u kogalaau 'aiga.

You remember in Samoa if we don't have vegetables we can always ask our neighbor or other villagers...if I don't have vegetables I go outside, in front there I have my vegetable garden. (GM2)

GM2 said that it was a way to avoid spending money on costly vegetables at the shops when they could easily plant their own garden of vegetables.

D2 said that she would help GM2 with her garden with the grandchildren. Although she learned from GM2 about healthy food and planting their own 'vegie garden', D2 said that she had shared information from her health professional friends, and midwife and family doctor with her family. D2 believed that sharing information amongst her family members would help each relative accept healthy eating as a practice in their household and also to maintain good health. She said that it was better to be informed by people in the family whom she would trust and work together as a family to continue healthy eating and lifestyle choices as a family habit. D2 emphasised her role as a mother that she should provide nutritional meals for her family and encourage healthy lifestyle.

I prefer my own Samoan language. Oga la o le iku lea ou ke mafaufau i isi kagaka o lo'u aiga e lē o malamalama kele i information gei. Ae e kaua kele i lo lakou ola maloloiga. E kakau a la ga ou kalagoa ma fa'asoa i oka kagaka.

I prefer my own Samoan language. It's because I think about my other family members who don't understand this information [pointing at juice bottle NI]. It's important that they know healthy lifestyle. It's a must to talk and share with my own people. (D2)

GD2 shared information she gained from GM2 and D2 and health professionals with other relatives diagnosed with chronic diseases. GD2 said she was able to share her motivation to be a 'better mother' to her own daughter, by practising healthy eating during her pregnancy, with her other female family members whom she thought would benefit from her own experiences. Moreover, GD2 said that although it was difficult at first to practise healthy eating she still made the effort because of her unborn child, and that she still continued practising healthy eating after the birth of her daughter.

4.4 Family 3

In Family3, both the daughter and granddaughter acted as the main sources of knowledge on healthy eating and lifestyle choices for the rest of the family. This was similar to what I observed in Family1 including three other participating families in this study. Even though the second and third generation were the main sources of knowledge on healthy dietary intake and lifestyle change, the daughters (second generation) were always the main ones mentioned amongst the two generations, including in Family3.

4.4.1 Food literacy

GM3 did not share much on healthy eating but she did say that she ate what she was given in Samoa and New Zealand. She saw herself as healthy from her dietary and lifestyle choices and in this respect mostly mentioned Samoa, comparing food available there to

food available in New Zealand. GM3 relied on D3 and GD3 for her meal preparation but GM3 had the most influence on what to cook for the family meals. This had been a daily practice in Family3 and again, this was similar to Family1 and Family2. Shopping for food was mainly GD3's responsibility and if GD3 was not available D3 would do the shopping or GD3's younger sibling. So GM3 shared her experiences with food in Samoa and how she accessed and prepared food for her extended family. GM3 had learned how to cook and prepare meals through observing her own mother in Samoa. However, when she moved to New Zealand, food choices changed and GM3 relied solely on both GD3 and D3 for meal preparation, and this was based on GM3's preferences. GM3 was Family3's matriarch and said that what she ate was healthy, and most of the food she mentioned were either 'fresh produce' or 'fresh seafood'.

D3 said that she understood 'healthy eating' but not the concept of 'food literacy'. She learned about 'healthy eating' from her workplace where she was involved in meal preparation for a secondary school in South Auckland. D3 said that although she knew the basics from her own education during her school years, she believed that her workplace equipped her with further knowledge and understanding of food and its link to her health. D3 explained that understanding NI was one of the advantages she gained from work.

O kakou i Samoa e lē i malamalama kele i ga vaikamigi i le faikauga o mea gei. Peikai o lea ou ke faigaluega i le aoga. Makou ke saugia meaai mo kamaiki i [Name] College. Pei o le isi mea lega ua ou malamalama kele ai i faiga o fa'akau ma kilokilo i mea, po'o a kaimi e expire ai a'o a foi ingredients oloo fai ai, pei la o le falaoa. O a'u ia ou ke lē o koe 'ai i se falaoa pa'epa'e. Ua ou 'ai i le falaoa Vogel bread.

In Samoa, we hardly understood how to read this nutrition information [pointing at the bread's NI]. But I work at a school. We prepare meals for [Name] College students. That has made me understand more about shopping and what to look for like the expiry date and the ingredients, like the bread. I don't eat white bread anymore. I only eat Vogel bread. (D3)

According to D3, her personal development from the workplace also helped increase her knowledge in how to read food labels which had influenced her dietary intake. She changed from eating 'white bread' to eating 'Vogel bread', a change that she had continued ever since learning about the benefits of having fibre in her diet. Her family food shopping had now incorporated healthier food choices because she was aware of the benefits of eating healthy foods. D3 also mentioned having a 'balanced meal' in order to be strong enough to work as she was working fulltime.

GD3 knew about 'healthy eating' but did not know what 'food literacy' was, similar to GM3 and D3. However, these participants did practise components of food literacy in their family meals. GD3 was GM3's primary caregiver and understood healthy eating and was encouraging her grandmother (GM3) and her family to change their dietary habits of 'unhealthy choices'. GD3 explained how her elder GM3 influenced their family meals and changed made to their meal preparation:

O le supo e fuafua ile lo'omakua lea ouke vaaia... O makou kuka lava ga amaka lava oga fai suiga iga ua kalagoa mai fomai ma isi vaega o le Soifua Maloloiga a. Ua kausi lava la ile kuu o fualaaui 'aiga i meaai ma kaumafai e fa'amasagi ai le fagau ma kagaka makukua o le aiga.

Making soup is based on the old lady whom I look after...We made changes to how we prepared our meals when doctors and other health professionals advised us. Now we have vegetables in our cooking and we try to practise every day with my children and elders. (GD3)

When it came to understanding food labels, GD3 said that she obtained information from her midwives and community health programmes such as the Vaka Tautua and Toa Pasefika that she attended with GM3 and other family members.

4.4.2 Role of midwives and family doctors

Different health professionals played an important role in influencing the knowledge of Family3 in understanding the importance of healthy diet and lifestyle choices. D3 and GD3 were more involved in consultations with health professionals, also on behalf of GM3. GD3 was more involved in caring for GM3 and raising young children and this encouraged her to understand more about food and about how a balanced meal could improve a person's health.

As stated above, GM3 relied on D3 and GD3 for her meal preparations and even for consultations with family doctors. GM3 said that she did not suffer from any chronic disease and that her health was 'good'. However, she did mention visiting her family doctor with D3 and mostly with GM3 to discuss about GM3's health as she was in her 80s. GM3 said that she was advised by health professionals such as the family doctor and nurse that in order to maintain good health at her 'old age' as she needed to have 'a balanced and nutritious dietary intake'. She was also advised to join community health programmes for physical exercises and to learn more about a healthy lifestyle. The Family3 matriarch said that 'her diet' was not a concern for her as she 'ate good food' when she was growing up in Samoa. GM3 was not concerned about herself but the knowledge that what she did would influence her family members motivated her to join in order to maintain her 'good health'.

D3 said that her family doctor also influenced her to make healthier food choices in order to improve her quality of health. She was advised to have a ‘healthy weight’ as she had been told during one of the consultations that she was ‘overweight’ which could increase her chances of developing diabetes. D3 explained the changes in her diet that health professionals such as her family doctor recommended:

I meaai palegi e pei o le breakfast i le kaeao, e kakau ga ‘ai sa’u cereal, o sa’u toast ma se ipu vai. A o’o foi i le aoauli o le fruit ma le saguisi. Po’o le ka o le 3 i le aoauli o se snack like a biscuit. A o’o i le afiafi i le dinner oga ‘ai lea o se i’a, vegetables ma le umala...E aumai e foma’i fa’amakalaga ma lakou kusi mai le lisi o meaai e kakau ga ou ‘ai ai.

A balanced meal like breakfast in the morning, I have to eat cereal, toast and glass of water. In the afternoon, it would be fruit and sandwich. Or at 3pm I would have a snack like a biscuit. In the evening I would eat fish, vegetables and kumara for dinner...The doctors gave me information and they wrote me the list of food that I should eat. (D3)

Consultations like these motivated D3 to make healthier changes in her diet and also to be physically active as she and her second daughter had joined the gym, and they would do ‘home exercises’ in their garage.

GD3 said that she had learned from her midwives during two of her pregnancies. She said that her family doctor had also explained about the need for her to make changes in her diet and to do exercise. However, GD3 obtained most of the information from midwives who were more specific and simple in how they explained to her what she should do in order to have healthy pregnancies. Both the family doctor and the midwives influenced GD3’s understanding of healthy eating and making healthier food and lifestyle choices. Most of the health professionals that GD3 visited were bilingual and used the Samoan language

during consultations, and this was one benefit that GD3 mentioned during the *talanoaga*. The midwives had also been the ones who had advised GD3 to attend community health programmes, as these would help her learn how to manage her gestational diabetes. GD3 explains:

Ou ke iloa e kakau oga palegi uma meaai e 'ai. O si ga meat, o si ga fualaa. Ou ke lagoga e kava aua e fika iai laka 'ai. A fa'apea o le mea lea ua aumai i luga o le plate, ia e 'ai i le kaimi lea ia e lava iiga ae lē koe alu aua e ma'i ai. O faukuaga foi ia ga aumai e a'u midwives ma foma'i fa'aleāiga ia a'u i o'u ma'ikaga uma. Auā foi ga ou maua ile ma'i suka a'o ou ko ga.

I know it's important to eat a balanced meal. A portion of meat, some vegetables. I feel that is important to know how much I am eating. If this is what I get on my plate, I eat it and not go for a second serving because you will get sick. This was the advice that I got from my midwives and family doctor during all my pregnancies. Because I had diabetes during my pregnancies. (GD3)

One midwife had told her that attending these programmes would help her in a number of ways: she would not only learn about gestational diabetes, physical activity and diet; but she would also be able to find out about walking groups, health checks and be able to join in group programmes to improve knowledge on health. These were also community health programmes focusing on older Samoans and their families (caregivers and others), and GD3 had asked GM3 to come along and learn about healthy living for seniors. In other words, GD3 said she had found the midwife's advice extremely beneficial, not just for herself, but also for her grandmother. Moreover, GD3 was able to share the knowledge that she had gained from attending these programmes with her *aiga*.

4.4.3 Beneficial effects of attending community health programmes

Community health programmes were commonly mentioned during the *talanoaga* with Family3, similar to participants in Family1 and Family2. The advantages of attending these health programmes included having easy access to health professionals who spoke Samoan during the programmes and who gave advice in the Samoan language.

GM3 said that she enjoyed her 'time at the community programmes' because she met new people whom she could relate to in terms of language and also being around other elders. She said the benefits of these programmes enabled her to enjoy and be motivated to attend more sessions where they did workshops on diet or did exercises. Listening to health professionals at these programmes using the Samoan language to deliver their workshop discussions and exercises programmes also encouraged GM3 to continue with the healthier choices she had started to make. GM3 had GD3 as her primary caregiver who introduced her to community health programmes and learning more about having a healthy lifestyle as advised by health professionals as 'elders' could be role models to their family. According to GM3, the health of her grandchildren and great grandchildren was important to her and following the advice of health professionals at these community programmes was beneficial for her and her family. GM3 was similar to most of the participants in Family1 and Family2 when they said that they were more encouraged to make healthier changes in their diet and lifestyle choices because of their grandchildren and/or great grandchildren.

D3 supported GD3 in convincing GM3 to join the community health programmes. D3 said that cooking and preparing family meals was based on what GM3 wanted, and to hear

about healthy eating at community health programmes from various health professionals who also spoke the Samoan language was a great help for D3 in influencing GM3 to agree on more healthy eating practices at home. D3's statement on how her family were over-dependent on buying food from shops and food outlets and the consequences of dietary changes in New Zealand, and the benefits of attending community health programmes with GM3.

Ua keke suiga ua kakou iai. Ua 'aai lava i mea e fa'akau mai i faleoloa...Ou ke iloa o fa'ama'i lea e kupu keke mai i Giu Sila i o kakou kagaka ma kagaka Pasefika ia o le ma'i suka, koko maualuga, ia ma ma'i faku...oga o le lē palegi lelei o meaa'i ma le lē koa'aga e fa'amalosikigo e pei o le savali. Ae o le lelei o le auai i polokalame e pei o le Vaka Tautua ma le Toa foi lea e masagi ga o iai ma le lo'omakua. E keke a'oa'oga aogā e maua mai iiga aua lava le ola maloloiga o le aiga.

We face so many changes now. We eat more of what we buy from the shops...I know that in New Zealand our people and Pasefika people have the highest number of people who have been diagnosed with diabetes, high blood pressure, and heart diseases. It's because of poor healthy diet and lack of physical activity such as walking. It's good to attend community health programmes such as Vaka Tautua and Toa (Pacific) that we attend with the old lady. There are a lot of good information from those programmes about healthy lifestyle for the family. (D3)

GD3 explained how their family meals are based on what GM3 preferred and the benefits of community health programmes that they attended. D3 said that GM3 hardly moved around at home because she was the 'elder' whom everyone respected, and everyone did what she wanted. Joining these community health programmes had helped GM3 become more active thanks to the physical activity programmes included. GD3 explained GM3's and her elders' influence on her family meals:

O le faiga o kuka e fua ile lo'omakua ma le 'aumakukua o le aiga. E iai kaimi e fua foi i la'u fagau i meaai e magagao iai...e fuafua meaai palegi e aoga mo lo'u kigo...ga ou iloa mai i foma'i ma kagaka o le komiuniti e fai e le Vaka Tautua ma le Toa Pasefika foi le isi lea e faia polokalame i meaai ma le ola maloloiga.

Family meals are based on what the old lady and elders want. Sometimes I cook what my children want...I prepare a balanced meal that is good for the body...I go these food and healthy lifestyle related information from doctors and health professionals that Vaka Tautua and Toa Pacific also provide. (GD3)

As stated before, GD3 had initially introduced GM3 to attend health programmes. GD3 said that her midwives and family doctor had advised her to join community health programmes that provided a 'wellbeing guide to better health'. GD3 was advised to join these programmes in order to help her during her two pregnancies. GD3 said that she had told her midwife and family doctor that she was GM3's fulltime caregiver, which meant that GM3 needed to go with her if GD3 attended these community programmes. The midwife and family doctor advised GD3 that there were community programmes that 'catered' for the elders which would also benefit GD3 in learning more about healthy diet and would allow her to join in with their exercise activities. GD3's statement indicated the benefits of community health programmes that encouraged her family to make healthy food and lifestyle choices.

A oka alu e avaku le lo'omakua e fai mai e fa'akau le falaoa egaega. O le a'oga lea ou ke aveia iai le lo'omakua o le Toa Pasefika, ga sa fai ai makou a'oa'oga i meaai. Ia ma o ile Vaka Tautua ou ke alu ai foi i isi lakou a'oga ma makou ke kalagoa ai i meaai palegi ma le aofaiga o le meat ma fualaau 'aiga ma se kalo poo le a lava meaai masoā e kuu i luga o le ipu. Kusa o iiga sa ou fa'alogoa ai o le falaoa egaega e lelei.

When I took the old lady there they told us to buy brown bread. The workshops at Toa Pasefika were where I took my grandmother, they hosted workshops about food. Also at Vaka Tautua I attended some of their workshops and we talked about balanced food and how much meat and vegetables and taro or whatever starchy food to have on a person's plate. I heard from there about the brown bread was good. (GD3)

GD3 started off by learning what she needed to change in order to have healthy pregnancies but she also gained from introducing GM3 to the community programmes and learning new information on the lifestyle changes that they needed to make to improve their quality of health. GD3 said that not only GM3 was not the only family member who attended these health programmes: some of her younger siblings who were involved in GM3's care had also joined. According to GD3, she learned more about healthy eating and lifestyle changes after she was diagnosed with gestational diabetes. GD3 explained:

O a'u midwives i kaimi o o'u ma'i ko ga maua mai le kele o fa'amakalaga e uiga i meaai e kakau ga ai. Ga ou maua ile ma'i suka ile kaimi ga ou ko ai... ga faukua mai e a'u midwives ouke alu i polokalame ia e saugia e le Vaka Tautua poo le Toa Pasefika e fa'alaukele ai loka malamalama...o lo'u ma'i ko muamua ma le loga lua ga sa faukua mai ai a'u oga o le fia iloa akili e uiga i le ma'i suka a'o ko.

My midwives gave me diet-related information on the type of food to eat. I had gestational diabetes...my midwives advised me to attend Vaka Tautua or Toa Pacific to gain more understanding. My midwives advised during my first two pregnancies because I wanted to know more about pregnancy diabetes. (GD3)

GD3 was advised by her midwives to attend these community health programmes for GD3's benefit and for GM3 who would be able to be more mobile in doing the exercise programmes that were free to 'seniors'. GD3 described learning from health professionals from the two health community organisations that GD3 visited with GM3. These health

organisations hosted community health programmes that helped GD3 understand more about healthy eating and making improved lifestyle choices.

4.4.4 Sharing of information – family environment

GM3 said that the only information she shared with her family was the advice she got from health professionals to have ‘a balanced diet’. GM3 also said that she advised her household on being physically active and since her family saw her as the ‘elder’, GM3 said that she had to make her family know about the benefits of eating healthy foods and make healthier lifestyle habits. In joining the Toa Pasefika and Vaka Tautua programmes, GM3 said that she shared with her family and got them to attend with her, especially the younger members, so they would learn more about better health from the health professionals who were hosting these community events. GM3 also mentioned the importance of other family members who are well educated and those family members would help with the language barrier with food shopping, referring to their being able to read food labels. GM3 said that some family members could learn from health professionals what choices the family needed to change so that every member in the household would be aware of what to do to improve their family’s quality of health.

D3 said that learning about the benefits of having a healthy diet and being physically active from her workplace would improve her family’s quality of health as D3 shared this knowledge with her household. Examples of information she shared included introducing eating ‘brown bread’ and avoid sugary drinks which D3 had started practising since learning about the impact of food (including sugary beverages) on health. D3 also

emphasised the importance of being physically active and some family members had joined in at their 'home exercises in the garage'. D3 also mentioned that her family meals were prepared according to what GM3 wanted to eat but D3 had made healthier change in 'taking out the fat' from the corned beef if she used it in GM3's soup. D3 shared with GM3 that if GM3 ate healthy, her whole family would follow suit. It convinced GM3 to make these healthier changes in her meals, the same meals that members of Family3 had for their main meals. D3 explained the importance of sharing health related information with her family.

E fa'akauaiga ia a'u oga e maua ai lo'u kigo malosi e fai ai a'u galuega auā ou ke work fulltime. E kakau ga maua e a'u le kigo malosi ma le kigo lelei ma le ola maloloiga. E lē gaka la mo a'u ao lo'u kiga ma kagaka makukua o le makou aiga ma la'u fagau. O mea gei e kakau a ga e kalagoa ai i lou aiga ia iai se suiga lelei e maua ai le ola maloloiga a'o le vaai foi ile lumagai o le aiga.

It's very important that I have strong body to do work because I work fulltime. It's a must for me to have a strong body and be energetic and healthy. It's not only for myself but for my mother and family elders and my children. These are the things we need to discuss with our families to practise healthy lifestyle and we also think about the future of our families. (D3)

GD3 had the most influence in terms of sharing information with her family. Since she was the primary caregiver to GM3, GD3 had the most influence in how to prepare family meals and also what to inform the family regarding GM3's care. As previously stated, GD3 had obtained information from her midwives and family doctor on healthy eating and being physically active. She had also learned by attending community health programmes that helped GD3 understand more about the benefits of healthy lifestyle on her pregnancies.

GD3 shared health professional advice with GM3 and convinced GM3 to attend health programmes with GD3 and other family members. During the *talanoaga*, GD3 named the improvement in her household practice of healthy lifestyle in terms of changes in healthy food choices and being physically active.

4.5 Family 4

D4 was the main source of information for Family4. GD4 mentioned GM4 and some family members who were diagnosed with chronic diseases that convinced her to start making healthy lifestyle changes.

4.5.1 Food literacy

GM4 influenced Family4's daily meals and because of her diabetes diagnosis and having borderline high blood pressure, she accepted advices from different health professionals to make healthier dietary choices and be physically active. None of Family4 participants knew the concept 'food literacy' but they were practicing its components. GM4 explained the problem of 'not knowing what food labels was such as nutrition information'.

Leai, ou ke lē malamalama iai...oga e fa'apalagi mai upu ga e kusi mai ai...O la'u kama keige lava ga ke fa'amakala maia le pusa o upu ga. O ia e kele ga oga iloa mea ga ma laga fagau keige foi.

No, I don't understand that...because it's all in English...My daughter D4 would explain that box of words. She and her daughters know that [pointing at tinned fish NI]. (GM4)

D4's encouragement in making healthy lifestyle changes in the family to improve the household's quality of life, and emphasising the health of the 'grand and great-

grandchildren’ led to GM4’s acceptance of the need to make these improved lifestyle changes. According to GM4, learning about healthy eating and controlling her portion sizes of food helped in reducing the constant increase in her blood sugar levels. GM4 said that her diet changes and also exercising when she tended her ‘vegie and flower gardens’ and taro patch helped her in controlling her diabetes. She was advised by health professionals to be physically active and that changes in her dietary intake would help control her diabetes and also improve her health. GM4 was used to having ‘salt’ and said she did not ‘bother with how much salt’ she had in her meals because she preferred ‘saltiness in her food’. However, ever since being informed of having increased risk of heart problems and being told of her borderline high blood pressure, GM4 started reducing salt. Similar to most of the elders in previously mentioned families, GM4 influenced her family meals and was seen as the ‘role model’ in her family. Upon receiving information on the health problems that GM4 was at high risk of developing, she was motivated to change her ‘food choices’ and also worked in her gardens to be physically active. GM4 explained the changes she made to her family meals:

Ou ke fiafia lava i lettuce ma kukama e maua ai le vaikamigi. O le makou kogalaau ga. A fai ai foi supo ou ke fiafia foi iai aemaise lava le laau faisua lea e lagumeamaka pei se limu. E ave ai foi le kapisi lagumeamaka lea.

I like lettuce and cucumber because you get vitamins from them. These are from our garden. I like it in a soup especially the green vegetable that looks like *limu* (showed broccoli). I also add this green cabbage (showed silverbeet). (GM4)

D4 was the key source of information in Family4. D4 helped GM4 understand the benefits of healthy eating and encouraged GM4 to attend community health programmes. According to D4, she undertook a nutrition course that helped her understand food and its impact on health. But health professionals explaining more of the information that D4 had already obtained from her nutrition course enabled D4 to know more about food and healthy lifestyle. When it came to food labels, D4 was the main source of information for GM4 and GD4 and other family members. She taught them how to read food labels such as the nutrition information panel (NIP), ingredient list and the percentage label of foods they bought. D4 said that she knew GM4 had difficulty in understanding English and reading food labels would not be important to GM4. D4 said that it was either her older daughter or GD4 who helped D4 with the food shopping and D4 had already taught them how to shop for 'better and healthy foods', as reading food labels was important when they went food shopping. D4 explained below the importance of understanding food labels such as nutrition information:

E faigaka lava i o kakou kagaka oga iloa fa'amakalaga gei, e pei a o kagaka o le makou aiga. E fai mai e kakau ga iloa le kele o le masima ma a lava mea e ka'u mai i kua i, ae seiloga e ke alu lelei ile kagaka e makuai iai le komai e fa'amalamalama ai mea gei...Ua ou suia le kukaiga o meaai ia aua ai gei maua i le ma'i suka...ua 'ai lava meaai e iai fualaau ae aua gei koe aia meaai lololo.

It's hard for our people to understand this information, it's the same with my family. They said we have to know how much salt and all those at the back here, [pointing at wholemeal bread NI] unless you consult with someone with this specialized knowledge who can explain it...I have made changes in how I cook our meals so that we don't get diabetes...we are eating vegetables in our meals but no more fatty food. (D4)

D4 said that the health of her children and family members was important to her and having her mother (GM4) practise healthy eating plus being physically active was a benefit to D4 in spreading the message of a healthy lifestyle. Working in the 'vegie and floral gardens' and taro patch was D4's initiative to encourage GM4 to work outside of the house and to have the grandchildren help GM4 tend these gardens. According to D4, this was also another way to encourage her family members to join in working together to make healthier choices in order to improve their quality of health.

GD4 said that she understood healthy eating and 'healthy eating' was about 'keeping her fit and proactive'. GD4 still had a 'habit of loving the taste of junk foods' but because she 'cared for my body and even for my family', GD4 started making changes in her dietary intake and becoming more physically active. GD4 also mentioned having various foods on her plate because she did not like eating just 'one type of food'. She learned about food labels at secondary school. GD4 said that when she bought her 'drinks' she would read how much 'sugars' and 'energy' before buying. Similarly, when buying food, she would look at how much 'fat' and 'energy' food contained. However, GD4 said that when she did food shopping for her family she would always go with her mother (D4). Most of GD4's 'reading food labels knowledge' was influenced by her parents, particularly her mother (D4) who taught GD4 the importance of reading food labels before purchasing food.

4.5.2 Role of midwives and family doctors

Family4 was similar to other families in that the mothers had had antenatal and medical consultations with different health professionals. Learning more about healthy lifestyle

choices within their family from health professionals encouraged Family4 to make healthier changes in their family.

GM4 said that her diagnosis of diabetes and borderline high blood pressure during one of her consultations with her family doctor influenced her to decide to make healthier food choices and be healthy for herself and for her family. Her family doctor and the diabetes nurse encouraged her to make healthier changes in her diet and lifestyle. She received pamphlets with information about diabetes and food choices that she needed to follow in order to control her blood glucose level to reduce the risk of developing more health problems for her. GM4 mentioned the benefit of having a family doctor who used the Samoan language during her consultations which enabled her to understand more about her condition. GM4 said that her English was not good so she relied mostly on her daughter (D4), her other children, grandchildren including GD4 and great grandchildren to translate English pamphlets. However, she was delighted that her family doctor and the diabetes nurse at the clinic she visited were Samoan health professionals who understood the language barrier and spoke in Samoan to her during her consultations. GM4 explained below:

O la'u foma'i e mafai oga oka kalagoa iai ma gai vaega ia e omai i kua mai le Soifua Maloloiga. E mafai oga oka fai aku iai aka fesili auā la e iloa e lakou mea lea e kukupu i o kakou kagaka oga o le 'ai lava.

I can talk to my doctor and the community health workers who come to our area. It is easy to ask them questions because they know what is happening to our people because of our diet [laughs]. (GM4)

D4's midwives helped her understand more about the need for her to make changes in her lifestyle when she was pregnant. Her midwives advised her that she needed to maintain a 'balanced diet' and be physically active to have healthy pregnancies. D4's experience with her midwives was similar to other participants who mentioned attending antenatal clinics with their midwives in New Zealand. D4 said that one of the advantages she had was having a family doctor who spoke the Samoan language. D4 also said that she asked her doctor for further clarification when she did not understand some of the midwives recommendations in terms of types of healthy food to eat. The fact that D4's family doctor and the nurses at the clinic used the Samoan language to explain some of the technical language that her first midwife used was of real benefit to D4. According to D4, her midwives advised her on participating in community health programmes where most of the health professionals could speak the Samoan language and whom D4 could ask for more information when she needed to understand more. Such advice informed D4 that she did not have to 'eat for two' but have an adequate nutritional intake. D4 said that her mother (GM4) was always concerned with feeding her (D4) but her midwives advised her that it was not about eating more to have a healthy pregnancy and baby, but about having the right food and being physically active to maintain a good weight for her unborn baby and for herself as well. D4 said that her midwives and family doctor highly recommended the community health programmes which D4 and GM4 attended with other family members. D4 explained below the benefits of consultations with her midwives and other health professionals:

Ga faukua mai loa a'u midwives ma foma'i e 'aua le sooga 'ai ae ia fuafua lelei ia solo lelei ai o'u ma'i ko...o iiga ga ou iloa ai foi e lē o le sooga 'ai e malosi ai la'u pepe ao o'u ko ma e pei ua masagi ai loka kigā e fai mai e koaga e 'ai e malosi ai le kagaka oloo kau'ave.

My midwives and family doctor advised me not to over eat but in right portions in order to have healthy pregnancies...from there on I knew that it wasn't eating a lot to make my baby strong during my pregnancies which my mother always tells me to eat more to keep my unborn baby strong. (D4)

GD4 said that initially she learned from D4 but her consultations with their family doctor also helped her gain a deeper understanding some information that GD4 found difficult to comprehend. When GD4 was at secondary school she learned the basics from her health class but her mother, D4, also gave her more information on healthy eating. Having health professionals explain more about food and its impact on a person's health was beneficial for GD4 because she was keen to learn from when she was at secondary school. GD4 talked about increased awareness from health professionals and her mother D4:

It's like you take it as in your own understanding of what healthy foods that you need eating. But they [health professionals] bring out what they think is healthy for eating. The doctors and health people who talk about healthy eating...When it comes to food what I see my parents bring especially mum and what my family bring then I would bring that too...Mum likes to eat healthy so I eat what she makes...I cook what mum tells me to cook. She knows more about what our family likes to eat especially when my nana got sick. (GD4)

Also, her 'nana's' diagnosis (GM4) of diabetes and borderline high blood pressure, encouraged GD4 to learn more about healthy eating and lifestyle choices. This experience motivated GD4 to want to pursue a nutrition course at one of the tertiary institutes and she had already chosen to undertake further studies in health and nutrition.

4.5.3 Beneficial effects of attending community health programmes

Family4 was advised to attend community health programmes to learn more about healthy eating and how it was associated with their diagnosis of gestational diabetes for D4, and diabetes and borderline high blood pressure for GM4.

GM4 said that D4 and her family doctor recommended attending community health programmes because these events would clarify any information or questions that GM4 had after her consultations with her family doctor. GM4 said that her General Practitioner (GP) advised her that these community health programmes would introduce the attendees to various learning, ranging from workshops that would discuss the benefits of food and how it was linked to a person's health. GM4 said that she enjoyed attending these programmes because most of the health professionals spoke Samoan during their workshops.

Ia, o la'u foma'i fa'a-le-aiga, le vaega lea e fa'apikoa i le komiuniti i le ma'i suka. O polokalame lava ga e o iai oga sa faukuaiga mai lava e foma'i e iai polokalame e aoga e fa'alogologo ma malamalama akili ai i mea e kakau oga fai auā lava le ola maloloiga, e pei o meaai e kakau ga 'ai ma le fa'agaioi lava o le kigo. Ga fai mai e lelei e fa'aSamoa mai lava.

Yes, from my family doctor, the community workers specialized in diabetes. Doctors advise us about those programmes that are good to listen and understand more on what how to practise healthy lifestyle, such as information on diet and exercise the body. They said they use Samoan. (GM4)

Additionally, exercise classes were also led in Samoan which encouraged GM4 to attend these sessions. Some of the exercise programmes played Samoan music and attendees were asked to dance at a pace they were comfortable with. Other benefits of attending community health programmes was being able to have clinics where community health

professionals such as the diabetes nurses, dietitians and others would join in the discussions and explain more on the need of healthy lifestyle choices that families and communities needed to make. GM4 said that she managed to grow both 'vegie' and flower gardens and also their family's '*kama'i ma'umaga*' (small taro patch) that kept her 'moving around at home'. It was one of the workshops delivered at these community health programmes in order for attendees to grow their own foods and have family members to tend to the gardens together.

D4 said that having these clinics in their community near their home was beneficial for her family especially for her 'mother' (GM4) who was the family's elder. D4 joined other community programmes that hosted exercise programmes but it was inconvenient for D4 to attend while leaving GM4 at home. Therefore, D4 was referred by her midwives and family doctor to community health programmes specifically for seniors, although programmes such as Toa Pasefika and Vaka Tautua also 'catered' to D4's needs. Her needs ranged from finding out more about healthy foods that were culturally acceptable to her family and also helping with D4's pregnancies. Moreover, D4 said that the 'elders' had exercise programmes that D4 joined as well. This was because she was motivating GM4 to join in these sessions but also helping D4 in being physically active and making healthier lifestyle changes. These community health programmes also taught the two participants (GM4 and D4) about growing their own vegetables at home, and this encouraged GM4 to be more active by working in her 'vegie' garden and taro patch. This also promoted dietary diversity

in Family4, and this was true for most families in this study. D4 explained the advantages of attending community health programmes:

E aogā lava le mea oloo ō ai ile Vaka Tautua ma le Toa Pasefika auā ga koe fafagu mai ai le faiga kogālaau lea ua makou faia ile fale...e fesoasoagi ai foi e fa'aikiikia ai foi kupe alu ile kau fa'akau ai o fuālaau'aiga ae 'o la 'e maua i kua ile makou kogālaau.

Attending Vaka Tautua and Toa Pacific programmes are good because they had made us go back to making vegetable garden...we don't need to spend money on buying vegetables because we have our own garden.
(D4)

GD4 said that when D4 and GD4's older sibling were unable to stay with GM4 at the community health programmes, GD4 would attend with her 'nana'. GD4 expressed similar views to GM4 and D4 on various workshops they attended. GD4 said that she saw these workshops as beneficial for her in learning more about being healthy with her dietary intake and also she would join in the 'better health programmes' that delivered exercise sessions such as Zumba and exercise routines. GD4 saw the benefits of attending these programmes with GM4 because her 'nana' was important to GD4 and her family as their elder. Influencing the younger members of the family to make healthier changes was important for GD4 and she was 'happy' that GM4 was motivated to make these healthier changes for herself (GM4) and for their family.

4.5.4 Sharing of information – family environment

Sharing information amongst the family members was important for Family4 especially with issues such as being healthy and food. As stated above, D4 was the main source of information for Family4 and D4 believed that her role as a mother motivated her to share

with her family on the benefits of ‘eating the right and balanced diet’ and ‘move to be active’ in order to maintain and improve their family’s quality of health.

GM4 said that D4 initially shared with GM4 on the importance of ‘eating a balanced meal’ and being the elder of Family4, GM4 said that she slowly started to make those healthier changes. The grandmother said that D4 advised her that because of her diabetes diagnosis and borderline high blood pressure, GM4 needed to make healthier lifestyle changes for herself (GM4) and for the family to follow. GM4 said that sharing information about healthy eating and ‘choosing to be more active’ was important for this elder because she needed to be ‘a good influence on her grandchildren and great grandchildren’. It was one of the most important motivations for GM4 to start making healthier food practices in her family. GM4’s statement indicated that she relied on D4 for diet-related information.

E kele foi ga ou iloa mai i la’u kama keige laikiiki isi fa’amakalaga i meaai e kakau ga ‘ai...o ia foi e feagai ma a’u foma’i auā ou ke suka. E fa’aeke’eke foi loka so’oga ‘ai i meaai aemaise meaai fa’akau.

I also know more information from my younger daughter (D4) on food that I should eat...she consults with my doctors because I’m diabetic. I’m careful with what I eat especially food that I buy. (GM4)

D4 said that she wanted to make healthier changes in her family because she had been diagnosed with gestational diabetes and GM4 had also been diagnosed with Type 2 diabetes and borderline high blood pressure. The increasing risk of developing more health problems later in life and the health of her babies encouraged D4 to make healthier changes. Her experiences and those of other family members diagnosed with diabetes and other diet-related diseases motivated D4 to start on advising her household to start making healthier

food choices, be physically active, and learn more about food and its impact on their family's health. D4 said that it was a slow start for her family because she had to convince her 'mother' (DM4) first before she shared her understanding of healthy lifestyle choices with the rest of her family. D4 was able to convince GM4 that their family needed to make healthier food and lifestyle choices to improve their quality of health and GM4's accepted the challenge. D4 informed GM4 that their family's good health was important and if they wanted to live longer they needed to accept the changes that health professionals had advised their family to make. One of D4's healthier food choices she introduced in her family was preparing healthier school lunches for her children. Despite worrying about how her children were influenced by their friends in 'liking their friends' lunches and sugary drinks', D4 said that she still made sure she provided healthier lunch choices for her children. She constantly advised her children on the benefits of the healthy lunches that she was making for them. D4 explained below:

O lea e kalagoa i la'u fagau a o i le aoga e 'ai lava la oe lunch ma igu lau drink. O kokogu lava i le aiga e aoga e a'oa'o ai lava e ka ika laka fagau ia maua ai pea le ola maloloiga.

I'm talking to my children that when they go to school they eat their own lunches and have their own drink. The family is important to teach our children to know understand so that they still maintain good health. (D4)

GD4 said that her mother (D4) motivated her and the rest of the family to eat healthy food and be 'unfailing' in the healthy practice. Having referred to other family members' diagnosis of different diet-related diseases that ranged from her 'nana' (GM4) and other elders of the extended family, GD4 said that she needed to make these healthier choices and

she was more motivated to learn more about healthy eating and lifestyle choices. GD4's decision in making these improved choices for herself and also to join in with her family to healthy food choices, and be more physically active encouraged GD4 to seek tertiary learning on food and nutrition and how it impacted on a person's health. She said that becoming a 'nurse' would also benefit her family because she could help explain to her family about the need to make healthier lifestyle choices in their home. GD4's understanding started at secondary school but her 'mother' (D4) encouraged GD4 and the younger family members to eat healthy foods.

I want to learn more and I want to enrol at [Name of institute] coz I want to do nursing. My nana is the reason why I also want to do nursing, so that I can look after them and follow what mum is trying to tell us about healthy eating. (GD4)

GD4 recalled D4 making healthier school lunches for GD4 and her siblings. GD4 said that they started early in learning about healthy eating and it was all her mother's encouraging efforts. GD4 also recalled understanding food labels when she went shopping with D4 and older sibling. GD4 said that her mother (D4) encouraged both GD4 and her sibling to 'always look and check information on the food before buying'. Moreover, GD4 said that she preferred learning from her mother (D4) because she trusted D4 with her choices in food. Furthermore, GD4's emphasised the important role that D4 had as 'her mother who looked out for her children and family's wellbeing'.

4.6 Family 5

Similar to the other families interviewed, a negative health experience had spurred the women in Family5 on to make some real changes in terms of nutrition and physical activity. Grandmother5 had had a stroke, and she was advised by different health professionals to make some lifestyle changes and that had to start with what she was eating.

4.6.1 Food literacy

D5 was the primary source of information for Family5. She influenced GM5's and GD5's understanding of healthy eating and be physically active. Most of Family5's knowledge was influenced by D5 who was into her fitness programme to stay healthy.

GM5 said that she knew about what to cook for her family because she used to work in the hospitality sector in Samoa and she was expected to prepare dishes for guests. She knew different cooking recipes but 'being healthy' was not a reason of her cooking at her workplace and this also applied to her food preparation at home. However, she made healthier choices in terms of food and manner of preparation when she settled in New Zealand and her daughter D5 was encouraging GM5 and the rest of the family to make healthier changes in their home. GM5 believed that although her English was 'average' she would not be able to read food labels except the 'expiry date' of packaged food. GM5 said she relied on her granddaughters and D5 because she did not understand most food labels:

Ou ke lē malamalama ai ile amakaga ae 'o la'u kama e kele ga malamalama ai...fai mai o mea ia e ka'u mai i kokogu o fa'amakalaga o meaai ga. Ae ou ke lē fa'aaogā la auā ou ke leiloa... o isi meaai pei o meaai ku'u 'apa e kakau ga vaai pe ua expire le 'apa.

I did not understand that information before but my daughter understood that...she said it is information about food. But I don't use it because I don't know it...some canned food I get I have to check if it is expired.
(GM5)

GM5 said that her experience of having a stroke affected her family and had made her decide to make healthier food choices and be more active in her exercise sessions with her health professionals. This was continued as a regular practice for GM5 when she recovered from her stroke. Family meals and the running of the household were mostly done according to GM5's preferences. This elder said that she tried cutting down on her starchy foods and have more vegetables in her meals. She also joined her daughter D5 in her home physical activities. Tending GM5's gardens (vegetable and taro patch) was one of her hobbies: she would go out to work in order to be more active. GM5 knew that some of her relatives were diagnosed with diabetes and other chronic diseases. She heard them saying that doctors informed them it was the 'type of food they ate and were getting too big'. The grandmother saw this an opportunity to start making improved changes in their home by accepting D5's advice on being 'healthy' with their family meals. GM5 said that she started having smaller portions and D5 was always cooking less meat and starchy foods but their pots were mainly filled with vegetables. This indicated that Family5 were aware of the benefits of dietary diversity in their family meals which D5 highly encouraged as an everyday practice.

D5 said that she was used to seeing her relatives preparing 'big pots of food where they just put anything in instead of planning what they wanted to cook' for the family. It was her mother's stroke (GM5) and also the fact that other relatives had been diagnosed with

chronic diseases and they were informed that it was their diet and lifestyle choices that needed changing in order to improve their quality of health. Moreover, D5 said that she wanted to lose weight for herself and for her family especially for her children who were still young. D5 believed that making healthy food and lifestyle changes should start from 'inside the home' and as the 'mother' of the family she also believed that it was her responsibility to introduce and encourage these improved changes in the family. D5 emphasised the important role of a mother in encouraging healthy eating and lifestyle choices:

E lē malamalama iai lo'u kiga ma o la'u fagau e laiki foi. E kakau ia a'u le kiga oga ou ku i lo'u kiuke o le iloa o information gei ma fai meaai e palegi mo lo'u aiga.

My mother does not know (refers to NI and other food labels) and my children are young. It is my responsibility as a mother to know this information in order to cook balanced meals for my family. (D5)

Upon discussing food labels, D5 said that she understood how to read them. It was due to her consultations with her midwives during her pregnancies. She said that she had gestational diabetes in her two pregnancies and from then on she decided to eat healthy foods and be more physically active so that she would not be at risk of diabetes later on. Her midwives initially helped her to understand the basics such as looking for 'how much sodium, sugar and fat' in foods she bought. Changing her eating habits and implementing healthier food choices and joining the gym, D5 was able to maintain good weight even when she had her last pregnancies. D5 also mentioned learning food preparation from TV

cooking shows and radio programmes that promoted healthy cooking. She explains how she did her food shopping and food preparation:

O le 10 years back ua ou i Giu Sila ga sa ou learn ai le 'ai fuafua. Ua ou vaai e maga'omia le suiga i kokogu o lo'u aiga...o a'u shopping lava mo makou meaa ma mea e fai ai kuka e fua lava ile kilokilo i nutritional information ma isi fa'amakalaga e uiga i meaa, o mea la ia ou ke fa'akaua.

It was 10 years back when I settled in New Zealand that I learned how to eat in moderation. I saw the need for changes in my family...my shopping for our food and ingredients for my cooking I look at nutritional information and other food-related information of what I buy. (D5)

GD5 said that she had health classes at secondary school but it was general information on which she needed more explanation. With her mother's (D5) influence, GD5 was able to practise healthy eating without even knowing from the start that they were 'eating healthy foods'. GD5 said that since enrolling at her Travel and Tourism course, she had heard of 'healthy eating' and she said that in that 'type of work it was a must to eat healthy and not to gain too much weight'. GD5 said that her mother's practice of healthy meals such as meat or fish, with potatoes but also with a lot of vegetables on their plates had become 'normal' in their family meals. GD5 explained making lifestyle changes, also emphasising D5's influence on her understanding of healthy eating:

My mum always talks about healthy foods and what's healthy for us...I just listen to that... she started eating healthy because I think she found out how important it is to eat healthy. And ever since that I have started to eat like her and what she eats is what I also eat. And I got used to it. (GD5)

In Family5, the participants demonstrated a better understanding of ‘food literacy’ than other families. However, participants GM5 and GD5 were not aware of the concept ‘food literacy’ but they were practising aspects of food literacy such as understanding ‘food’ and its impact on health, eating smaller portions of a nutritious meal and maintain the healthy eating practice. Furthermore, programmes such as cooking programmes on the radio and TV helped Family5 learned more about preparing healthy family meals. Family5 had practised healthy eating and lifestyle choices and with the great support from GM5, Family5 was able to continue healthy dietary intake and lifestyle choices as daily practices in their home.

4.6.2 Role of midwives and family doctors

Similar to the other families, Family5 reiterated the important role of midwives and different health professionals who contributed in Family5’s understanding of ‘healthy diet and be active in exercises’. D5 was the main source of information to Family5 participants and the rest of their household. D5 said that her pregnancies had changed her ‘view on food and her habits’.

D5 said that she wanted to lose weight when she was diagnosed with pregnancy diabetes during the first two pregnancies she had. When she was informed of her diagnosis, it ‘hit her to think about the need to change’ in her diet and be physically active. Her midwives advised her of the need to change her dietary intake and try to be more active in physical activity so that she would have healthy pregnancies. These diagnoses during her first two pregnancies encouraged D5 to start making healthy changes in herself, also for her children

and family as well. Her midwives advised her of free community health programmes that she could join that delivered exercise sessions. D5 said that during her first two pregnancies, she could not go to the gym because she was working fulltime. However, that changed when she had her last pregnancies that she was able to not only join the gym but also other exercise sessions at their community hall. D5 said that her midwives also advised her that if she could not join the community programmes, she could always do walking sessions with her family or anyone she could 'do workout with'. D5 explained:

O le faukua mai lava o gai a'u midwives oga o le kaimi foi ga sa ou maua ai ile ma'i suka iga ua ou ko. O iiga pei ga ou figau ai lava e kakau ga ou ola maloloiga ma lo'u aiga ma a'u foi...ga faukua a fomai ia a'u ma ou vaai foi ile kiuke lava o le kiga lava ia o le kapega lelei o meaai ma loga aiga ia maua ai le ola maloloiga lelei. E leai se kiga e fia vaai aku i saga fagau o mama'i mai.

My midwives advised me when I got pregnancy diabetes. That was when I decided I must practise healthy lifestyle with my family...my doctors also advised me and I saw that it was a mother's responsibility to prepare healthy meals for her family. No mother would want to see her children getting sick. (D5)

GM5 said that she was advised by the family doctor to be 'more active and move around to exercise'. When she had her stroke, that was the most vulnerable time GM5 faced when she was more dependent on her daughter D5 and family to care for her. Seeing her grandchildren and other relatives joining in to encourage her when she had her exercise sessions with her physiotherapist, GM5 was more motivated to make healthier lifestyle changes. GM5's statement explained how she had made certain lifestyle choices following her doctor's advice:

E fa'amakala mai lava e la'u foma'i mea e uiga i mea e kakau ga oka 'ai ai ma mea e lē kakau foi oga so'oga 'ai. Auā foi ga oso lo'u stroke ae ua pule alofa le Ali'i o lea ua ou koe malosi. O lo'u stroke lava lea ga mafua ai foi ga ou fiafia ou ke fa'amalosikigo ma fa'agaioi ai le kigo ae lē ga o le 'ai.

My doctor explained what I needed to eat and food that I should not eat too much of. Because I had a stroke but thank God I'm strong again. My stroke encouraged me to exercise and enjoy it, and not just eat. (GM5)

GM5 said that D5 became her fulltime caregiver and D5 was always encouraging this grandmother to 'think about her health and her grandchildren too'. GM5 became more accommodating to D5's advice on making improved food choices and motivated more to recover from her stroke. The Family5 grandmother agreed that the help she had received from her doctors was important, and that such advice should not go to waste, as she was encouraged to making healthier changes for herself and for her family. GM5 explained the importance of following health professionals' advice on healthy lifestyle:

O kakou kagaka Samoa e vaai aku loa ile keke o le meaai makuai alu lava iai ma sooga fai a? Ae lē o kago fuafua lelei... o faukuaga ga a le Soifua Maloloiga e aumai ia kakou. E kakau lava oga kakou usikaia aua o le faukuaga lelei.

With our Samoan people, when they see lots of food they just over-eat, right? But they should eat in moderation...this is what the health professionals' advice to us. We should listen to their advice because it is good advice. (GM5)

GD5 supported D5 and GM5's statements on the influence of health professionals in increasing their understanding of healthy eating practices. The younger family member said that it was important for her to hear the information from health professionals because 'they

are professionals who know about our health'. GD5 also expressed the importance of following health professional advice in relation to a healthy diet:

They make it clear for me to know the importance of eating healthy... They heavily promote healthy eating, saying it won't make you get sick like getting diabetes, heart diseases, umm gaining too much weight but giving you good health. (GD5)

GD5 agreed with her elders that their family doctor had the most influential role in motivating their family members to make decisions to eat healthy and exercise more. She gave her grandmother's (GM5) stroke as an example of this influence. GD5 said that during a family meeting with their family doctor and other health professionals, these professionals had advised their family on the need to make healthier choices to improve their quality of health. Most of their family members attended the meeting and hearing information from health professionals influenced her extended family to change their 'way of thinking about health and especially food'. Moreover, GD5 said that this led to most of her family members joining in her 'nana's' recovery sessions at either the gym or the swimming pool which was also a good time-out for her and the family.

In summary, D5 had the most influence on GM5, GD5 and the rest of their family. Similar to most participants in my study, life experiences such as a chronic disease diagnosis in relatives (including GM5), had encouraged D5 to make healthier food and lifestyle changes in their home. Moreover, D5 was also motivated to make these changes because her midwives, family doctors and other health professionals had advised her to maintain a healthy diet in order to have healthy pregnancies. Multiple health professionals played a big

role in providing information to Family5. The health professionals equipped Family5 with information and skills which helped Family5 and their extended family navigate the food system. In addition, it helped Family5 understand more about eating healthy and its benefits on health.

4.6.3 Beneficial effects of attending community health programmes

When GM5 had her stroke, health professionals advised D5 and the rest of the family of the need to encourage GM5's quick recovery. The health professionals advised Family5 that GM5 was slowly recovering from her stroke and she needed to be consistent with her physical workouts. GM5 and Family5 were advised by health professionals that there were community health programmes they could attend in order for GM5 to have her 'exercise routine' and that the family would have to be involved with GM5's recovery sessions. The health programmes gave GM5 more information on the type of food she needed to have in her meals and how to do exercises provided by the programmes at her own pace. According to GM5, she was more motivated to attend these health programmes because she saw her family and especially her grandchildren involved in her recovery plan. GM5 also felt comfortable seeing other Samoan elders and making friends with elderly members of the wider Pasefika community who attended these health programmes. GM5 continued to mistake the researcher for a community health worker doing a home visit to discuss issues related to health in the Samoan language. She expressed her enthusiasm for such programmes by saying:

Ou ke makuai o'u fiafia i lau polokalame lea e ke sau ai gei. O le makuai selau pasege ia ke a'u legei polokalame. Auā foi o lea ou ke malamalama

ae moi a e lē kele kele sei vagaga ai la'u kama keige (D5) ae o le polokalame lea a oe lea ou ke fia akili malamalama kele ai.

I'm really happy with your programme. This programme is hundred percent to me. I understand but not much but only my daughter (D5) but this programme is making me want to understand more. (GM5)

D5 said that the community health programmes helped ease the pressure of being a fulltime mother. She took time off from work when GM5 had her stroke and taking GM5 to these health programmes was a benefit for D5 as well. Attending these health programmes was a relief for D5 when she took on the role of being GM5's fulltime caregiver. It was not only for GM5's benefit to have her regular workouts but D5 said that she also used that opportunity to join in the exercise sessions as they were for the elderlies and their caregivers. D5 explained below the importance of attending different community health programmes with her family:

Ua laki o le iai o polokalame gei e fai solo i community halls e fai ai fa'amalosikigo, ma polokalame foi a le Vaka Tautua ma isi polokalame e makou ke o ai ma lo'u kiga ma la'u fagau. E mo'i i lo'u ko'alua ae pei o le aumakukua lava ma kamaiki makou ke o lava ma lo'u uso foi...E lelei polokalame ia e fa'amalosiau mai ai ia kakou ia sui o kakou mafaufau ile sooga 'ai ma le leai se fa'amalosikigo. Ae kaumafai oga 'ai meaai palegi ma ia iai lava se kaimi e fa'agaioi ai le kigo, e fa'aikiikia ai le kigo puka ma le ma'i.

Fortunately, we have different programmes at community halls where they do exercises and have programmes like Vaka Tautua, and other programmes that I go with my mother and children. My husband is not really keen but it's mainly the elders and my children and my sister too...These programmes are good because they encourage us to change our mindset about over-eating and being physically inactive. But try to eat a balanced meal and exercise, to reduce being overweight/obese and sick. (D5)

D5 felt more relaxed in knowing that GM5 was getting one-on-one session with some of the Samoan health professionals who talked to GM5 about anything that GM5 wanted to talk about. D5 saw this opportunity for her to learn more about the foods that were highly recommended by health professionals to include in GM5's meal which were those shared with the rest of the family.

GD5 said that the benefits of attending health programmes was getting free exercise and also getting involved in programmes for the elders. She sometimes accompanied her grandmother to these programmes if either her older sibling or D5 was unable to go with GM5. Just like D5, GD5 said that she was getting free information from health professionals who were delivering the programmes and especially seeing her grandmother feel more encouraged to be amongst other elders. Similar to other participants in this study, GD5 mentioned getting free checks such as weight and blood pressure checks. She said that with her being busy with the course she was attending sometimes prevented her from visiting her family doctor for checks. But the free clinics that were provided by the local community health professionals enabled GD5 to not only attend with her grandmother but to also get free checks. GD5's statement indicated the advantage of attending of community health programmes for her family:

When nana was sick (stroke) we would go support her. We joined in the programme they had like checking blood pressure and stuff...Mum and my siblings we joined nana when they went to the community hall for free Zumba and other exercise programme they had there...there was a walking group that we sometimes joined. It was good for our nana back then and we now make a habit of going. It's fun. We go as a family.
(GD5)

Attending community health programmes was beneficial for Family5. GM5 gained more than an understanding of a 'healthy dietary intake'. Many health professionals who delivered these programmes had cultural and linguistic understanding of attendees such as GM5, D5, GM5 and other members of the extended family. The programmes provided health information on a variety of topics such as food and diet related information, meal preparation, while also offering free health checks and easy access to physical activities for attendees. It emphasised the importance of elders and their families' understanding of any health information provided. These programmes encouraged attendees such as Family5 that joining community event such as Toa Pasefika (Toa Pacific) and Vaka Tautua were for the benefits of both elders and the younger family members, which motivated elders such as GM5 and other Family5 'elders' and accompanying family members to participate in these events. The Samoan language was used in these programmes which improved GM5's confidence to 'open up to health professionals' when she was having difficulties in understanding health information or any other concern that GM5 or her family was unsure about. These community events enabled GM5 to make 'friends' with other Samoan elders, their families and members of the wider Pasefika elderly population attending these programmes.

4.6.4 Sharing of information – family environment

D5 was the main source of information for Family5. Most of GM5 and GD5's understanding of food and its link to health was influenced by D5. This was common

amongst most of the participants, with the second generation acting as the key source of information for their families.

D5 believed that it was important to share with her family the importance of eating healthy foods and understanding the impact of their food on their health. D5 also mentioned her life experiences and those of other relatives that drew her to make these healthy choices, for herself and for the rest of the family. When GM5 had her stroke and the family was asked for a ‘family meeting’ with the doctors and nurses who were looking after GM5, D5 said that she encouraged her extended relatives to join that meeting. It was beneficial for Family5’s household to understand GM5’s illness and also to be involved in knowing about the grandmother’s condition. D5 said that it was her way of informing her extended family to be aware of the need to practise healthy eating and encouraging her family to be more proactive in physical exercises. It was another way for D5 to get her family involved in GM5’s recovery but equipping her household with the knowledge to start making healthier and improved food choices for their family. GM5’s statement indicated that she had heard of many Samoans getting diagnosed with chronic diseases and from that knowledge she understood more of why D5 was encouraging healthy eating and lifestyle choices for their family.

Ga ou fa’alogo ua kele o kakou kagaka ua mama’i oga o le sooga ‘aai i meaai masoa ma meaai lololo ma le ga’oa...O la’u kama keige lava ga amaka suiga gei. Ia e lelei mo a’u. E lelei foi mo le makou aiga akoa iga ua ou ma’i mai ia ga kalagoa lava ia lakou uma ile mea e kakau ga makou faia faakasi aua e lelei E ko’akele lava o kakou kagaka ia ou ke fa’alogo aku e fa’apea ua gasegase oga o le kele o le ‘ai i meaai masoā ma meaai e kele le lololo.

I heard that many of our people are sick because of eating too much starchy foods and foods that are too fatty...My daughter started this change. It's good for me. It was good when I got sick we were able to talk to our whole family about what we must do together as family because it is good (GM5)

D5 also influenced GD5's knowledge of healthy diet and played a role in her joining the gym. GD5 was not the only grandchild following her mother's (D5) healthier practices: GD5's older sibling also got involved in emphasising healthy meals in the family. D5's statement emphasised the importance of sharing with her family about healthy lifestyle choices and the importance of following health professionals' advice:

Ou ke iloa ua kele kagaka ua learn coz I've seen le kele o kagaka makou ke kolegi, especially o kakou kagaka Samoa. O mea la fa'apea ma faukuaga lava ou ke iloa mai i a'u fomai ma ou ma'i kō ga ou ke kalagoa ai lava i kagaka o lo'u aiga.

I know that many people have learned (benefits of healthy lifestyle) because I have seen many of them that we exercise together, especially our Samoan people. These things and advice from doctors and my midwives I share with my family. (D5)

When it came to food shopping, D5 showed and explained to her daughters (GD5 and sibling) the importance of reading and understanding food labels in order to buy healthier food products for their family meals. D5 said that her mother (GM5) did not understand the technical language on these food labels such as nutrition information and ingredients list. However, her daughters (GD5 and sibling) were keen to learn about the healthier choices and how to 'pick out the recommended foods that were healthy'. One insight that D5 shared with her daughters was the Heart Foundation TICK on foods which was common with other families in this study. The TICK was highly recognised in Family5's shopping list

because foods with the Tick were 'good for nana' (GM5) during the time of her stroke. According to D5, it is not just for the benefit of the individual family member but for the benefit of the whole family to have good health and practise healthy lifestyle choices.

GD5 said that her mother (D5) shared her knowledge of healthy eating and making better lifestyle choices by joining the gym. It was a practice adopted by GD5 and her older sibling when their mother (D5) shared information and changed how she behaved. GD5 said that D5 used GM5's stroke experience to prove her point that their family needed to make healthier food choices and be more proactive in exercise sessions at their gym. GD5 related how D5 practising healthy meal preparation practice had become 'normal' for their family.

I know that I have to eat fruits and vegies...we usually have salad, lettuce, tomatoes and sometimes mum chucks in surimi and that...sometimes we have fish...this is what mum always tells us and we follow. We know it is good for us. (GD5)

It motivated GD5 to learn more about food and healthy recipes as she wanted to get into a Travel and Tourism course so that she could later become a flight attendant. GD5 said that her mother's (D5) efforts in encouraging their family had inspired GD5 to join in her mother's health challenge for her family. The Family5 granddaughter emphasised the important role that her mother (D5) played in informing her family and also being patient with her positive attitudes towards other family members who were not keen but later joined in to try and lose weight as advised by their family doctors. Also, GD5 emphasised the importance of promoting healthy eating and practising healthy lifestyle choices in high

school and most importantly at the Samoan Units where most Samoan students and their parents were involved in.

Sharing information on food and diet-related issues amongst family members was effective in making improved and healthier changes in Family5's home. D5 was the main source of information for Family5. D5 not only influenced GM5 and GD5's understanding of food and its link to health but also that of the rest of the household, including other members of the extended family, who took up the challenge of implementing a healthier dietary intake and being more physically active. It was a slow process for D5 when she tried to convince her mother GM5 and the rest of their family to practise healthier food and lifestyle choices. Despite making healthier changes being a slow progress in Family5, most of Family5 participants and other relatives adopted these 'new and healthier changes in their homes' in order to improve their quality of life. GM5 saw herself as the 'elder' who should set a good example for her grandchildren and the rest of the family. D5 saw the need to make healthier food choices and lifestyle changes for herself, her children and for her family as a whole. GD5 emphasised the importance of having a healthy family in relation to GM5's stroke and other relatives who had suffered from chronic diseases. Each family participant and other relatives learned healthier choices from each other and saw each family member as 'models' whom they observed and learnt from.

4.7 Summary of chapter

This chapter has looked at the findings per family, discussing recurrent themes such as the influence of specific family members on food and lifestyle choices, the influence of health professionals and community programmes, and the sharing of information within families. The next chapter will review the aims of my research, outline my overall findings and identify any limitations and suggestions for further research.

Chapter 5: Overall results and discussion

5.1 Introduction

My study showed that all generations of the women within a family had some awareness of the components of food literacy but the matriarchs of each family determined food choices and preparation and often it was a health crisis that had raised awareness of the importance. In this final chapter I will discuss the overall findings and their implications in the context of the themes and current literature, strengths and limitations, and recommendations for public health practice and future research.

5.2 Food literacy

Within all families, food literacy entailed an understanding of the importance of portion-control, eating plenty of vegetables and the importance of the skills and knowledge for preparation of family meals and obtaining culturally acceptable food. Most families were also aware that their dietary intake was associated with diet-related diseases and four families mentioned that some of their family members and other relatives had experience of diabetes, heart attacks or strokes with complications.

5.2.1 Knowledge of the effect of food on personal health and wellbeing:

Knowledge of food was passed down from ‘mothers’ and ‘female members’ of the families through observation and participation. Most of the families in the present study understood the importance of dietary diversity and physical activity and that it had an effect on their personal health and wellbeing. Moreover, preparing a ‘good tasting meal’ for their families

was also ‘a must’ for most participants in order for the families to enjoy and share amongst themselves. Responsibility for food was not about planning and cooking for an individual person but was for preparing for the rest of the family including the extended family. The cultural norm was to make sure that the food was appropriate for their *matua matutua* (elders) and according to their preferences. The pattern of hierarchy around family food decisions of grandmother, daughter and granddaughter was present in all families.

All grandmothers said that they also asked their families to cook food that their ‘grandchildren’ and ‘great grandchildren’ wanted to eat. GM2 and GM1 said that as elders and mothers they were responsible for providing healthy meals for the family. Either these matriarchs cooked or they ‘told’ their family members what meals to prepare for family that would be “good for the family”. All granddaughters included their grandmothers in the list of people who influenced their food knowledge. Most granddaughters said they not only learned how to cook and prepare family meals from their ‘elders’ (grandmothers) but also other ‘female relatives’. In line with De Backer’s (2013) findings, mothers and ‘maternal grandmothers’ were found to be the most influential on childhood food practices and family food knowledge. De Backer found “a matrilineal dominance” in cookery knowledge and understanding amongst family members (2013, p. 64). Most of the mothers in the present study agreed that preparing healthy meals for their families was important and provision of healthy meals for their families was a better choice than providing cheap food that would reduce the lifespan of their family members and most importantly their children who are the ‘*lumanai o le aiga*’ (future generations). It is important to highlight the important role that

'*matua*' (elders) have on their families. Tamasese Taisi Efi (2003) emphasises the important influence of the '*matua*' as nurturers on the younger family members. Tamasese Taisi Efi explains that *matua* (elders) have envisioned the young as inheritors of physical and cultural wealth, bestowing *fa'amanuiaga* (blessing) to the younger family members who are also the future of the *aiga*. Similar to findings by M. C. Wang, Naidoo, Ferzacca, Reddy, and Van Dam (2014) on how children's food preferences also influence their families' food choices and preparations.

New knowledge around food was gained when there were health issues or a pregnancy and this altered understanding.

5.2.2 Knowledge of food and food system and in association with social, cultural, environmental contexts:

In the Samoan traditions, food is about nourishment for the body and maintaining 'connectedness' amongst family members and the wider community. These customs define 'food' according to Samoan cultural and spiritual beliefs and values (Ihara & Vakalahi, 2011; Tamasese Taisi Efi, 2009). Food and food choices are important because they are about sharing with the extended families and the community. Food creates connectedness among individuals and builds more harmonious relationships within the family and community. This is similar to other Pasefika communities' beliefs on 'food' and 'sharing of food' ('Ahio, 2011).

Navigating through the food system was important to all participants in the present study. Most of them mentioned the importance of knowing where to access their food from as part

of the planning of what food items that their families needed and where they would do their shopping. Participants depended on easy access to various food supermarkets and food outlets especially for certain foods such as taro, green bananas and other starchy foods that their *matua* preferred and were culturally appropriate for family functions. Most of them knew where they could buy traditional foods such as taro, green bananas and yams based on their quality and cost.

These starchy foods especially taro and green bananas were needed for the families' Sunday *to'ana'i* (meal). Moreover, the 'elders' also preferred taro in their meals which influenced their families' food shopping. Most of the 'mothers' in this study said that their food shopping and preparation were always done according to their families' preferences because 'it was a waste to prepare food that the family would not eat'. Congruent with findings by M. C. Wang et al. (2014) who investigated in Singapore where working women cook infrequently and how food choices and preparation were considerably influenced by children and their food preferences.

Some families had their own taro patches in their backyard but these mainly supplied baby taro leaves for their *luau* or *palusami* (taro leaves cooked in coconut cream). These families were used to having their own *ma'umaga talo* (taro patch) on their lands in Samoa and they brought these skills and knowledge with them and applied them in New Zealand. The transference of their knowledge and skills they obtained in Samoa through growing their 'own taro patch' and 'vegie gardens' enabled most of the families to have access to cultural foods that they needed such as 'baby taro leaves' for their *luau*. Moreover, their 'vegie

gardens' provided vegetables for their family meal preparations. However, these families could only grow a few vegetables in their backyards because of the smaller space compared to their extensive family lands in Samoa. Growing their own food was a common practice amongst all participants but four families were able to grow their own 'taro patch' and/or 'vegie garden'. Growing one's own foods in a vegie gardens or 'taro patch' increases the opportunity of food security for the family since this involves culturally acceptable food such as taro.

Mothers tend to introduce 'new things' or 'new knowledge' in their homes. Families in the current study who planted their own food and were 'working in the garden' encouraged physical activity for their family members. Most of the grandmothers in this study hardly ever joined their daughters (the second generation) at the gym. However, grandmothers who had suffered a stroke joined the gym with their daughters and other family members because their stroke had been a 'wake-up call'. Most grandmothers felt more comfortable at their own homes and working in their gardens was a 'hobby' for them, but they also saw their 'vegie gardens' as an opportunity to exercise. Rush (2009) reports that having 'vegie gardens' is an effective and strategic way of improving food security for families but also providing easy access to good food such as fruit and vegetables.

Algert, Diekmann, Renvall, and Gray (2016) concur, suggesting that home fruit and vegetable gardens can enhance food security because of easy access to fresh vegetables which can also increase vegetable and fruit intake in families. Moreover, these authors emphasised the importance of providing access to foods that have cultural and ethnic

meaning to individuals, families and communities. In addition, home gardens promote dietary diversity which is congruent with finding by Weinberger (2013) and Taruvinga, Muchenje, and Mushunje (2013) that having home gardens is associated with improving diversified dietary intakes for households. In saying that, these home gardens “contribute to a more sustainable environment” (Weinberger, 2013, p. 853), which is an important aspect of food literacy and food security. Families and communities can identify with these specific foods.

All participants mentioned the importance of learning from observing their elders either when they were in Samoa or when they moved to New Zealand, a subtheme in this study. GM2 learned gardening in Samoa and she continued this practice in New Zealand with her family. The interactive process within the family setting enhances learning from observing the elders. Similar to Algert and colleagues’ (2016) emphasis on the importance of growing home gardens which would enable family members such to pass their cultural knowledge to children, grandchildren and other family members. Sharing food amongst the families and community members is the norm in Pasefika and Samoan culture. Tending home gardens does not only increase vegetable and fruit intake but also emphasises the importance of dietary diversity and community food security as food can be shared amongst other families and community members. This also aligns with Algert et al. (2016) who suggest that excess food from home gardens can be shared with the extended family and friends.

5.3 Role of midwives and family doctors

For all families, midwives and family doctors played an important role for the participants in increasing understanding of ‘good food’ and health-related information in order to maintain good health. The six mothers (D1, D2, D4, D5, GD2 and GD3) who had received antenatal care in New Zealand agreed that their midwives were the first source of information on navigating the food system to access ‘good foods’ and identifying the types of food the participants needed to maintain ‘good health for both mother and unborn child’. These mothers also agreed that their midwives advised them on the importance of good health during their pregnancies, as that was the most crucial time for expectant mother’s health as well their babies’. Moreover, it also improved their food literacy understanding and skills. This resonates with the views of Szwajcer, Hiddink, Koelen, and van Woerkum (2009) who posit that midwives could help expectant mothers in addressing specific nutrition questions and issues during consultations.

Most of these mothers said that although they knew about ‘healthy food’ they felt their knowledge was still limited. Their knowledge in terms of understanding nutrition and the food and health-related pamphlets they were provided were ‘too technical’ according to most mothers. Having sessions with their midwives had familiarised most of these mothers with planning meals that were affordable and healthier choices. The same mothers mentioned the benefits of understanding the Heart Foundation TICK as this enabled them to buy foods that had the TICK endorsement, information they had gained from their midwives. Most participants even agreed that food labels were difficult to comprehend but

they were able to read food labels for nutrition information panel (NIP) and ingredients list (IL) because their midwives helped them understand the specifics. This corresponds with findings from a cross-sectional survey on patients with limited health literacy by Lassetter et al. (2015), which they found that Native Hawaiian and Pacific Islanders living in Hawaii and Utah had difficulty understanding food labels. Although Lassetter et al. (2015) focused on health literacy, their conclusions on the difficulties of interpreting the meaning of food labels resonate with the current study's findings, in that participants did find food labels difficult to understand. The date marking (DM) or the 'use by or best by date' was the only familiar food label. The Heart Foundation TICK was considered quick and easy to understand that the food was 'good' or 'correct' based on its health endorsement. In addition, a 'tick' was easy to understand based on their primary and secondary education experiences with a 'tick' (✓). Most of the participants could relate to the 'tick' from their past education experiences as it represented 'good'. In saying this, personal experience and personal communications with families and members of the Samoan community support other research that the Heart Foundation TICK is one of the simplest and reliable 'food labels' people are able to identify and relate to (Ni Mhurchu & Gorton, 2007).

Participants in the current study encountered 'language barrier' among other constraints such as being unable to follow information in the nutrition and health brochures they were provided with during consultations. Despite their limited knowledge and inability to understand technical 'health' language, participants in the current study agreed that their pregnancies motivated them more to make better food and lifestyle choices so that they

would have healthier pregnancies and that these changes would continue after the birth. This corresponds with findings with Szwajcer, Hiddink, Koelen, and van Woerkum (2007) on the importance of nutrition awareness during pregnancy and implications for the lifecourse of the mother and baby. The findings of the present study also resonate with the literature which emphasises the association of nutrition knowledge of pregnant women and the practice of healthier food choices (Mirsanjari et al., 2012). Similar to the mothers of the present study who had received antenatal and postnatal care in New Zealand, they valued their consultations with their midwives who helped them understand the importance of a healthier dietary intake and lifestyle practices for both the mothers' health and their unborn babies'. Moreover, trusting 'midwives' in the New Zealand setting is similar to the respected role of traditional Samoan *fa'atosaga* (midwife) whom Tamasese Taisi Efi (2009) postulate that they are the promoter and protector of human life. The *fa'atosaga* knows the sacred relationship and embodiment of the mother and the unborn child in the early stages of conception. She ensures that the mother and the unborn child are provided with the best care and deference. Due to her *fa'atosaga* (midwifery) role, she understands the essential of "balancing the harmony of the mind and body of the mother..., ensuring that these are in balance with the growth of the unborn child" (Tamasese Taisi Efi, 2009, p. 120). Midwives can be advantageous source of information regarding diet and its link to general health.

Midwives were trusted and the 'mothers' understood the role of *fa'atosaga* who were concerned with both the expectant mother's health and the unborn child. Similar to findings by Garnweidner, Sverre Pettersen, and Mosdøl (2013) study, midwives and antenatal care

were effective and more trustworthy when they promoted healthy diet and related information to expectant mothers. Wilhelmova, Hrubá, and Veselá (2015) have also confirmed the important role of midwives in association with healthier lifestyle choices of pregnant women.

Family doctors or General Practitioners (GPs) are the first point of contact for healthcare for the community. In this current study, participants valued the time and information family doctors provided for the participants during their consultations. Most participants said that their GPs had influenced their understanding on the importance of diet and its link to their health. The GPs had provided medical advice, often in the Samoan language, that encouraged most of the participants to make healthier changes in their dietary intake and lifestyle choices. Most participants mentioned '*foma'i e iloa le mea e kakau oga fai*' (doctors know what's best) when it came to the participants' and their family's health.

Other life experiences influenced the five families in this study to make improved and healthier food choices. Life experiences such as being diagnosed with Type 2 diabetes, and/or borderline high blood pressure and high cholesterol had encouraged most participants and their families to eat a healthy diet and to make other healthier lifestyle choices. Two grandmothers had suffered a stroke which had affected both the elders and their families and encouraged all to make lifestyle changes in their families. Their consultations with GPs improved their understanding of better food choices and the benefits of being physically active. Medical advice regarding the type of food to avoid, or eat less of, were also mentioned during the *talanoa* sessions. GPs advice was followed

because most participants could relate to these health professionals, many of whom spoke Samoan, were empathetic and motivating, and provided simple yet comprehensive practical information. The present study findings resonate with findings by Tukuitonga (2013) of the importance of families and the wider community relating better with clinical professionals who speak a Pasefika language. This is aligned with Drago's (2016) argument that diet health professionals who give diet advice and counselling should always consider the traditional eating practices of individuals and their communities, ensuring that advice is culturally appropriate that includes the importance of a healthy 'traditional diet', and nutrition counselling that does not belie the health beliefs of the individuals and communities.

Most participants, especially the grandmothers, agreed that they preferred seeing a Samoan health professional because they believed that these 'doctors' and 'health team' could understand what they wanted to talk about, and that they could share their concerns with them. Daughters and granddaughters supported the grandmothers in this present study with regard to having Samoan 'doctors' and 'health team'. It all came down to the fact that most of the participants valued their 'elders' (grandmothers) and they were seen as the most important family members who deserved to be treated with the utmost respect.

5.4 Beneficial effects of attending community health programmes

Most families had also improved food literacy by attending community health programmes. These programmes increased the knowledge and awareness of most of the participants in

the present study regarding the importance of practising healthy eating and making improved lifestyle choices.

Most families attended community health programmes such as the Vaka Tautua and Toa Pasefika on the advice of their midwife or GP. Other community programmes such as ‘free Zumba sessions’ and ‘other exercise programmes’ that were offered at community halls or church halls were also beneficial ‘time out’ for some participants who found these after-hours community programmes convenient for them as they were working fulltime. An example is Grandmother4 (GM4) who attended the community health programme, Vaka Tautua, on the advice of both her family doctor and the diabetes nurse and dietitian, because she had Type 2 Diabetes and borderline high blood pressure. One of the advantages that GM4 mentioned about attending these community health programmes was that the health team was using the Samoan language. Joo (2014) emphasised the importance of having bilingual health professionals who have a cultural understanding. The ability to interact with health professionals who could relay health messages and advices in the Samoan language encouraged most participants to do more research on healthier food preparation and recipes.

Most families such as Family3 and Family4 emphasised the importance of community health programmes they attended, because they not only gained health information on the importance of a ‘healthy diet’ but also on food required by each family member as some had been diagnosed with diet and lifestyle related diseases, even if these conditions were still ‘borderline’. Health information provided in Samoan was simple and comprehensive

for these participants. Benefits of attending community health programmes included the ability to work together as a ‘community’ to learn more about good dietary intake and physical activity and interactions with different health professionals such as the diabetes nurse and dietitians. Individual issues regarding health status, free health checks, nutrition counselling, and having longer sessions at these programmes were perceived as beneficial. Such health advice increased most families’ understanding of food and the need to practise healthier food and lifestyle choices. Participants were able to ask more on the questions or issues pertaining to their consultations with their GPs and other health professionals. These community health programmes were considered effective in equipping and strengthening the wider community in improving their food and lifestyle choices-related knowledge. In addition, these programmes provided an informal ‘follow-up’ consultation where community members would feel more comfortable and at ease in their familiar social environment. Gaining a better understanding from community health programmes regarding their health status or diagnoses, encouraged most participants such as GM4, GM5 and GM1 to ask their families to eat less takeaways and instead practise having more family meals that were prepared with healthier ingredients.

These community programmes also advocated the importance of being physically active. Most participants (14) in the current study mentioned getting more physical activity from exercises that health programmes provided which was more motivating because they saw other ‘community elders’ and their supporting family members joining in these sessions. Growing food was one of the benefits of attending these health programmes. Most families

agreed that having a vegetable garden was an advantage for members of the extended family as they could work together in maintaining the garden while at the same time this was a form of exercise. Being informed of the benefits of growing one's own 'vegie garden' encouraged most families in the current study to revert to their knowledge of growing traditional food that most families practised in Samoa, particularly the grandmothers and most of the daughters. In communities with collective ideologies that are incorporated in their social, physical and spiritual environment, community health programmes are more effective in implementing initiatives that will strengthen and support the beliefs and understanding of these communities such as the Samoan community because they are already familiar with communal efforts related to them.

Radio and televised modes of communication in the Samoan language had significant influence on most of the families in the current study, particularly the grandmothers and daughters in their learning and understanding about food and its link to health. Moreover, some programmes on air motivated most families to engage in and practise 'living a healthy lifestyle' such as the walking session that was promoted on Radio Samoa.

Most of the participants in this study agreed that they also preferred to listen to health professionals who were mainly from the community health programmes they attended. These same health professionals used the Samoan language to deliver their health messages and provided more opportunities for the 'listeners' (most participants) to 'feel connected' when they heard daily health messages and encouragements from 'their own people'. Family4 was an example, where GM4 had very limited English and she relied on D4 and

GD4 and other family members when she had consultations with health professionals. D4 had good English but she still preferred getting information in the Samoan language and hearing it on Radio Samoa encouraged D4 to seek more information on healthy eating and lifestyle choices. This is congruent with findings by Clayman, Manganello, Viswanath, Hesse, and Arora (2010) who suggested that people who spoke less English and with less education tend to be more receptive to messages that are given through radio channels and rely more on family. Language is important as it also influenced families such as Family4's understanding of healthy dietary intake and its association with better health quality. D4 said that one of the reasons why GM4 avoided doctor's visits was because of language issues. However, knowing that there were health professionals who could speak Samoan motivated GM4 to see her family doctor and other health professionals such as the Diabetes Nurse and the community health team. This is consistent with findings by Mirza et al. (2014) which identified the language barrier as an obstacle for people to access healthcare services, influencing their decisions that affect their health status. Providing appropriate initiatives that emphasise the importance of language and culture, which are also adapted to facilitate minority communities such as Pasefika and Samoan peoples is necessary in reducing the barriers that are contributing to the burden of lifestyle-related diseases in these communities. This resonates with views by Netto, Bhopal, Lederle, Khatoon, and Jackson (2010) that increasing awareness of minority ethnic communities is important. Interventions should focus on the culturally appropriate communication approaches, and understanding the determinants that shape and influence the behaviours of minority populations such as Pasefika, particularly Samoans.

5.5 Sharing of information – family environment

In keeping with Samoan culture, families shared any food and health-related information with the extended family. Observing is one of the most important ‘traditional learning tool’ in the Pasefika community, especially with by observing their *matua matutua* (elders), especially their mothers and female family members.

Role of the mother:

All participants of this study mentioned their ‘mothers’, who have the responsibility to provide the best for their family, as the key ‘influencer’ on their knowledge, practices, experiences and behaviours with food because they ‘observe’ their mothers. Equipping mothers with detailed and simple food and health-related information can help them make informed decisions on understanding the need for healthy food practices and choices within the home.

All families in this study mentioned the ‘mother’ (grandmothers and daughters) during the *talanoaga*. The ‘mother’ knew her family and what the family liked to eat. All participants agreed that they (had) learned how to cook and prepare family meals by observing their mothers. The mother was always mentioned as understanding most of the household members and their preferences in food, especially their *matua* (elders). The elders’ (grandmothers and other elders) preferences in food and what they wanted to eat came as first priority and the whole family would share in the same meal that their ‘elders’ wanted to eat.

Most participants emphasised the need for every day practice of healthy eating especially with how mothers prepared their family meals. Taking Family2 as an example, they had discussed the importance of taking ‘slow steps’ in making lifestyle changes and especially practising healthy eating in the family. According to most of the participants, the mother holds the role of being responsible for her family. Mothers are seen as ‘nurturers’ who give their best to their families, ranging from ‘good foods’ and what the family needs for their wellbeing. Most mothers in this study said that they knew their families’ (food) preferences and had more influence on their families’ dietary intake. These mothers tend to have more involvement in how family meals were planned and prepared. The mother’s influence ranges from the early time of her pregnancy as she is always conscious of the ‘unborn baby’ she is carrying and will behave according to the needs of her unborn baby and sometimes her own health. But mostly, the mother is more concerned for family and others rather than for her own health. It is important to focus on understanding ‘mothers’ as they are the ‘gatekeepers’ to their homes. K. C. Smith et al. (2012, p. 93) agreed that the focus should be on exploring the perspectives of mothers in relation to influences on their dietary intake because they have the “mom effect” in their households. The ‘mom effect’ refers to a mother’s influence on the dietary decisions and behaviours in the home environment. Dewes (2010) also emphasised the significant influence that Pasefika mothers and female caregivers have over dietary intake and physical activity at church and at the family home, which is similar to all the five families in the present study.

Culture contributes to how Samoan mothers conceptualise food and health. The Samoan culture emphasises the important role of the *feagaiga* (covenant) in her family (Latai, 2015). The *feagaiga* refers to female members of the family, and often to the relationship between the brother and sister. This brother-sister relationship is sacred in families and utmost respect and ideal behaviours are expected in this relationship. It is important to maintain the *vā* (relational space) between individuals. Vaioleti (2013) further explains the significance of this relational space between individuals especially when elders, women, brothers and sisters are present. Mila-Schaaf (2006) states that the same code of behavior is also expected between people within the *aiga* and the community as a whole, including strangers to strangers. The ‘sister’ can also be referred to as the *malu o aiga* (‘shelter’ of families) (P. Ifopo, personal communication, September 24, 2016). It is her filial duties of being the family daughter. Moreover, she becomes a ‘mother’ who still has her upbringing as the *feagaiga* (covenant) and she takes on more roles of being the ‘*faufautua*’ (advisor) to her husband and it also applies to other members of the *aiga* (S. Uatison-Tuputala, personal communication, October 04, 2016). In the Samoan culture, the ‘maternal role’ aligns with the understanding of being ‘a filial daughter’ whose duties revolve around the *aiga*. Most of the participants were mothers themselves and, as stated, observing their own mothers and other female relatives was a common form of learning, including how to cook and prepare family meals. Most participants including the New Zealand-born participants, emphasised their role of the ‘family daughter’ who was responsible for their families. All participants referred to their extended families including more distant relatives. ‘Extended relatives’ referred to relatives in their household as well as other relatives who lived

separately from the participants' homes. This sense of responsibility for others is common in Samoan culture. It also reflects the 'belonging' of an individual to their *aiga*. It emphasises the importance of communal wholeness and the individual is not just a predominant member but part of the collective totality of the *aiga*. The participants, particularly the mothers (12) emphasise their maternal duty to their *aiga* and their decisions are based on their customs and values. Their behaviour is associated with maintaining harmony and interconnectedness within the *aiga* and community.

There is a need to provide health messages in their simplest form for families and communities that have little or no understanding of health messages. This is where community health programmes are most beneficial in delivering health information to the most vulnerable families and communities at high risk of diet and lifestyle related diseases. Family4 mentioned the language barrier that GM4 faced as she had limited English. Participants such as GM2 and D5 emphasised the importance of tertiary education in 'food and nutrition'. GM2 suggested that learning the benefits of healthy eating and lifestyle choices would help equip a person to make the right choices to maintain good health. It all comes down to the person's individual choice of their dietary intake, the quantity and quality of what they eat. GM2 pointed out the importance of being aware of the foods that are prepared for the family because the familial food practices can become a 'habit' that a person prepares for communal functions. Understanding food labels such as the nutrition information panel (NIP) is a barrier to populations whose health statuses are largely affected by their dietary intake and lifestyle choices. Campos, Doxey, and Hammond (2011)

posit that there is a need for simple and straightforward presentation of food and related information. There is a need for interventions that are ‘adapted’ for these particular communities, especially as they have language barrier in understanding food and diet-related information. An example of simpler information on food is the TICK by the New Zealand Heart Foundation that most of the participants from the five families mentioned. They found the TICK easy to understand and said it made food shopping easier because they could distinguish the food that was highly recommended. The language used on food and related information such as Nutrition Information (NI) and other food labels should be simple to understand especially for populations that are burdened by diet-related diseases.

It is important to explore how mothers conceptualise the notion of health particularly focusing on the family setting. In this current study, most daughters and one grandmother were familiar with the concept of healthy foods and nutritional concepts that ranged from ‘nutrients’, ‘vitamins’ and ‘carbohydrates’. Despite knowing these concepts, these participants felt that their ‘efforts’ in practising healthy eating and making improved lifestyle choices were always ‘hindered’ by ‘other family members’ (father and other elders) who were not keen to make changes. ‘Other family members’ tended to do the opposite of healthy living. The five families stated that these family members who were mostly raised in Samoa were ‘used to the old ways of cooking and preparing food’, and most of the time practised these ‘old ways’ by wanting more meat and starchy foods and less vegetables in the family meals. These same family members continued to practise these old dietary habits following the move to New Zealand. These ‘old ways’ are embedded in these families’

understanding and worldview because it is based on their culture, tenets and ethos and the philosophy of their 'own' world. *Taufe'ulungaki* alludes that Pasesika peoples' beliefs and understanding are firmly rooted in their own cultural values, customs and belief systems (cited in Mila-Schaaf, 2006).

There is a need for every family member to be involved in meal planning and preparation in order to understand the importance of healthy eating and food choices. In most Pasesika cultures, particularly Samoans, *aiga* is important. Motivating and encouraging the whole family to be involved in food planning and preparation, and providing the appropriate diet-related information on health can help Samoan families make more informed food and lifestyle decisions. In the current study, all five families mentioned the influence that their elders and the children/grandchildren had on the planning and preparation of family meals. According to the granddaughters in this study, they 'followed' what their grandmothers and mothers (daughters) cooked for their families. Most families mentioned that the 'other parent' (father) who would ask for a different dish if he did not prefer the meals that had already been prepared. Family involvement in food planning and preparation to improve dietary intake and lifestyle practices is consistent with Couch, Glanz, Zhou, Sallis and Saelens' (2014) argument on the influence of parental modelling of healthy eating practices on the family.

Most mothers in my study found it difficult to put forth the 'challenge' of changing food choices and behaviours in their families because the elders and other relatives were used to elders being observed, followed and respected, but never contradicted when they were in

Samoa. There is a need to inform and equip the most vulnerable families and communities such as the Samoan ones with culturally appropriate health information, but there is also a need to consider the importance of ‘cultural learning tools’ that Samoans are used to. K. C. Smith et al. (2012) agreed, stating that there are other factors that explicitly influenced people’s perception of ‘health’. These determinants are already instilled in the memories and past experiences of individuals during their ‘own childhoods’ that have influenced their current behaviours and relationship with food. There is a need to have parental motivation when focusing on parental influence on improving family diet and lifestyle choices. According to Lovell (2016), parents should be provided with health and nutrition information that would increase their knowledge of healthy diet and lifestyle choices and it is also empowering parents to make healthier choices to improve their quality of health. Also, such information should be relevant to these particular individuals and communities which are also culturally appropriate.

It was common amongst grandmothers and daughters in the current study to encourage the importance of practising healthy eating and prompting most of their relatives to improve lifestyle behaviours as a family. This healthy diet and better lifestyle practice was also encouraged for other relatives outside of their households. GM4 was dismayed at how easy it was to buy takeaways over the counter from various food outlets. She emphasised that families should prepare more meals at home instead of relying on purchasing food over the counter. Because GM4 had more influence in Family4’s family meals, her diabetes diagnosis encouraged and helped GM4 accept that she and her family needed to make

healthier food choices. GM4's collective view on health which was shared by all of the families in this study, was one of the focal emphases in these community health programmes. The elders' concerns for the health of the children in the family was one of the highlights that is common in the Pasefika including Samoan peoples on the importance of the health of the *aiga*. This emphasised the importance of maintaining familial connectedness in the family where decisions are based on the importance of not just the individual but the *aiga*. All five families emphasised the importance of the health of their family and this further highlights the significance of the collectiveness in Samoan families. This is often discussed in the literature (Seiuli, 2012; Statistics New Zealand and Ministry of Pacific Island Affairs, 2011) based on Pasefika studies including Samoan, that these communities have a holistic approach to health and everything that revolves around them.

As stated above, the maternal influence on children's food choices and intake should be another central focus in order to improve healthy dietary behaviours for the younger members of the family. Campbell et al. (2013) supports the emphasis on increasing mothers' knowledge because her maternal role is associated with improved dietary intake for the children. Families such as Family4 and Family1 agreed on the effective and simplified learning they gained from attending community health programmes which led to improved diet and lifestyle habits for the wider extended family. Practices on how to make healthy meals such as family meals and children's school lunches were some of the changes that most families agreed on. As an example, D4's changes in her family consisted in preparing healthier school lunches for her children and encouraging her children to 'eat

their own lunches' instead of their 'friends' and she was sure that other children had 'fizzy drinks' in their lunch boxes. D4 further stated that in spite of her efforts to provide healthier lunches for her children, she still had concerns for her children as they were influenced by other school children who brought sugary drinks to schools. D4's concerns on other children's influence on her children is reflected in the literature (Tukuitonga, 2013) which reports on the young Pasefika boys consuming more sugar sweetened beverages, which has been linked to the increasing incidence of overweight and obesity. Daughter4, similar to most participants, also mentioned the benefits of joining their church health programmes where they learned about healthy food and meal preparation. Moreover, joining church and village sports events was common amongst the families in this study, particularly the 'daughters' and some of the 'granddaughters' and other family members.

Church, community programmes and consultations with health professionals are not the only environment where opportunities for sharing of information and improving food literacy occur.

Daughters mentioned being members of their Samoan school alumni associations and sometimes had tournaments, in New Zealand, against other 'old school associations'. It is important to consider the advantages of various social settings that Samoans often attend. I did not find this in the literature as most of the focus was on church settings. Most participants of this study not only mentioned the importance of their church family but were also encouraged to represent their *nu'u* (village) or *āoga* (school) at social functions or sports tournament such as Samoan *kilikiti* (Samoan cricket) and volleyball matches. Most of these participants agreed that more Samoan males joined in these tournaments especially

when they have *ta'amilosaga o lakapi poo kilikiti* (rugby and *cricket* tournaments). Families who joined these tournaments or were associated with these sports teams tended to prepare food and beverages for their teams and this should also be considered in programmes which aim to deliver health messages to more Samoan families, rather than focusing solely on church settings. Village and school alumni should be considered as important as church settings because these events not only have families joining in these tournaments but food and beverages are also prepared for these events.

I do agree that focusing on accessing people through church settings may work for Pasefika communities, particularly Samoans. However, there are others in the community who may be religious but who are not regular church-goers. Statistics show that an increasing number of younger Pasefika people have become less religious than their parents (Tukuitonga, 2013). Other social settings such as school alumni, sports clubs and village subcommittees should be considered to help implement health initiatives especially for individuals and families who are not regular church attendees.

5.6 Overview and discussion

Food literacy is not clearly defined in the literature (Vidgen & Gallegos, 2010) or understood by others including participants in this study. Despite having no explicit knowledge of food literacy for most respondents, they still practised the components of food literacy in their daily lives, and shared it with their members of the extended family while others shared with their networks outside of their family unit including friend, church and social networks. Participants were more aware of the importance of nutritious food and

the link between eating healthy food and avoiding noncommunicable, lifestyle related conditions than I had expected. Not only that, but they were also putting their knowledge and understanding into practice. Health literacy continues to be the main emphasis in the global literature (Chari, Warsh, Ketterer, Hossain, & Sharif, 2014; Nutbeam, 2008) and in the New Zealand context (MOH, 2010). The high engagement of my participants with community programmes is evidence that the Ministry of Health does support programmes that improve health literacy in a culturally appropriate manner.

This work reinforces the intergenerational and major role of mothers in passing on understanding of food knowledge and related information to their families. The emphasis on maternal influence on their family's food and lifestyle choices is important in improving family knowledge on the association of dietary intake and health. De Backer (2013) agreed and validated the influence that mothers have on their families' knowledge and understanding of food and related practices. S. Duncan et al. (2016) also postulate that such a family-centred approach can be effective in implementing health initiative targeting diet and lifestyle behaviours. Past findings showed maternal influence being effective in generating family knowledge and understanding of food and related information. In this study, all participants mentioned learning by observing their mothers and older female members. Including older and younger women in this study is a new approach that could aid understanding of food literacy in different settings.

Literature on food literacy in the New Zealand context is fragmented and mainly includes studies examining 'dietary components' (Wiseman, 1994), 'Pick the Tick food

information' (Young & Swinburn, 2002), 'balancing diet and budget' (C. Smith, Parnell, Brown, & Gray, 2013) and food labelling (Maubach & Hoek, 2010; McLean, Hoek, & Hedderley, 2012; Signal et al., 2008). The findings of this body of work highlight the importance of a holistic family view of food literacy instead of focusing on one component of 'food literacy', there is a need to underline the importance that knowledge, skills and understanding of food and health related information are all incorporated in improving food literacy.

This study uncovered the important role played in conveying food literacy by community health professionals, most specifically midwives. The midwives were effective in delivering food and health related information to the women during their pregnancy care. This indicates the credibility of the role that midwives play as the source of information for women (Garnweidner et al., 2013). The literature reflected the increasing number of Pacific women who rarely practised healthy eating, also, there is little information regarding the maternal understanding and insights around diet and physical activity during pregnancy (Okesene-Gafa et al., 2016). I found that midwives in particular had played a major role in enhancing women's understanding of healthy eating and making improved lifestyle choices. This may be due to the significant incidence of Gestational Diabetes among Pacific women (Rowan & Rush, 2014), and Samoan women are no exception. It is an alarming health concern to see the increasing number of Pasefika women (including Samoans) (70.5% and 86.2%) are over represented in the statistics of overweight and obese women in comparison with their European counterparts (National Women's Health, 2015).

Many participants, but especially the mothers, had relayed to their families (including extended relatives) the advice they had received from midwives. These participants also had tried to get the rest of the family to follow and change their dietary and lifestyle behaviours, which was effective convincing most but not all relatives. Midwives ensured that mothers became very aware of the risks of Type 2 Diabetes later on in life and the increasing risk of more chronic health disorders, and encouraged the first generation (elders) to change their dietary and lifestyle habits.

The literature on Pasesika and Samoan views on food literacy showed that there is limited knowledge of the connections between food knowledge, practice and health. During *talanoa* participants started to realise that ‘food literacy’ comprised of knowledge and skills related to food, ranging from food choices, accessing food from our food system, selection, preparation of meals and knowing their food choices would improve their diet quality (Vidgen & Gallegos, 2012). Accordingly, these resulted in improving their understanding of food and lifestyle choices and increasing their awareness of healthy practices that would help improve their health status.

The participants in this study emphasised the importance of having health messages conveyed to them by people from within their own communities in their own language. This underlines the importance of establishing the Pacific Heartbeat programme by the New Zealand Heart Foundation and the significance of the Certificate in Pacific Nutrition established by Professor Elaine Rush and in partnership with Auckland University of Technology (AUT) (Heart Foundation, n.d.).

The findings of this study confirmed those of earlier studies about the link between food literacy and food security ('Ahio, 2011; Rush, 2009). Most families either have a vegetable garden and/or taro patch. Food security is one important component of food literacy because having skills and knowledge of food enables individuals to have access to food, and in this case, the participants in this study grew their own home gardens to obtain culturally appropriate foods that they needed for their family meals. Moreover, these participants grew their own foods which not only increased their food security but these gardens also improved the consumption of fruits and vegetables amongst the families and their extended relatives and others they shared their foods with in their communities (friends, church, and other sub-networks). This promotes the importance of diversity in food sources amongst the families and the wider community.

5.7 Strengths and Limitations

The aim of this small, qualitative study was to explore participants' understanding of food literacy in three generations of a Samoan family. This study used a qualitative *Talanoa* approach to gather the views and perspectives of three generations of women across five Samoan families. This approach was very well suited to this study, as all participants happily shared their views and their understanding of food literacy, which generated new knowledge to add to the literature. The *talanoa* was relevant as I followed culturally appropriate protocols with and among the participants in this study which Vaioleti (2013) emphasises, and maintained the positions of my participants while engaging in our open

conversation. *Talanoa* fitted in with the *aganu'u* (culture): when older people speak, younger people sit and listen respectfully. Suaalii-Sauni and Fulu-Aiolupotea (2014) agree, positing that *talanoa* engagement is not only more open 'talk' but the *talanoa* method allows and encourages each participant to share their views and understandings. The *talanoa* method was effective in collecting a wealth of knowledge from participants on their perspectives of food literacy, which at the same time I was able to observe the participants' cultural ethics within their family settings.

This was a small study, which used 'snowballing' to recruit participants. This recruitment technique has limitations: participants may have referred similar participants to the study. I had asked ministers of various churches to act as independent third parties in recruiting participants, but unfortunately, some were more helpful than others. One family pulled out of the study. It was in the first *talanoa* session that this family withdrew from the study because they were moving to Australia. At the time, this was supposedly the 'third family' and it was the mother (second generation) who informed me that interviewing the 'granddaughter' (who was the last to be interviewed of this particular family) would not be ideal as they were 'moving to Australia'. The translation of 'food literacy' into the Samoan language was difficult so I had to understand the whole meaning of the concept 'food literacy'. In order to formulate relevant questions around 'food literacy' for the *talanoaga* with my participants: questions that the participants could understand because I had to use respectful, formal language with the grandmothers and daughters and sometimes informal language with the granddaughters.

This study did not seek to understand better the role of grandfathers, sons and grandsons who do have important roles in food literacy in the family. The focus on women is a strength and a limitation.

5.8 Recommendations for future research

My thesis showed the benefits of nutrition counselling through midwives and community health professionals, such as family doctors. It would be good to have future research on the benefits of counselling, preferably in community members' preferred language of medical care. In the words of one of my supervisors (I. Crezee, personal communication, November 10, 2016): even when individuals are fluent in English, it is better to use “the language of the heart, rather than the language of the head”. In addition, when health messages are provided in Samoan (in this case), it is easier for recipients to relay such information to their family members.

My thesis showed that health information was shared among family members: participants demonstrated a holistic view of the importance of nutritious food to the wellbeing of the entire family. In addition, individuals seem to relate more strongly to health messages conveyed by members of their own community, in their own language. Future research should focus on ascertaining the benefits of conveying health messages to the entire extended family. It is very important that researchers or health professionals choose the correct community setting for conveying such messages. Many New Zealand-based Samoans still have a very strong affiliation with their villages back in Samoa and have

created social networks referred to as *asosi* and/or *kalapu*, based on shared (village, school or sports club) affiliations. These *asosi* and/or *kalapu* could be an ideal avenue for future health promotion research.

Future work should include other members of the families including men.

Lastly, and very importantly, some participants felt that they were often ‘preached to’ rather than consulted and engaged in discussion around health and healthy eating. While my study was only small, I did find that participants were very aware of the importance of healthy eating, and were also putting this knowledge into practice. The partnership principle is very important in community-based research: participants should be engaged and consulted in future studies.

5.9 Conclusion

Overall, I found that knowledge concerning food was passed down through the three generations of women, and that midwives and general practitioners were trusted sources of information and community programmes were beneficial for the whole family. However, it is the ‘daughter’ (second generation) in the current Samoan family who appears to be the central influencer and enabler, so interventions to improve food literacy should include the mother, and ideally include fathers and daughters as well. In addition, it should be offered using the Samoan language, in a range of settings including but not limited to the church. The most effective approach to delivering health information is to have more of a ‘*talanoaga*’ instead of ‘being told’ or being in a ‘preach-like-classroom structure consultation’ with these communities. Face-to-face access to health professionals such as midwives seems to be more effective when it comes to delivering health related advice to expectant mothers. Midwives engaging and motivating expectant mothers during consultations with midwives can help deliver more information that will equip, motivate and enable expectant mothers to make more informed decisions in terms of food and lifestyle choices. It is important to be inclusive when focusing on Pasefika communities, particularly Samoans. They know and understand what works for their ‘own’ people.

It is important to emphasise the significant influence of food literacy on helping Pasefika including Samoan peoples to improve their knowledge and understanding of food and its association with their health. Food literacy can be used as a ‘tool’ for Pasefika and Samoan communities, health professionals, and interested bodies to work together to implement

effective initiatives to help improve the health status of our Pasefika peoples (including Samoan) in New Zealand. I take the *lalagaina* (weaving) of the *ie Samoa maō'i* (Samoan fine mat) as an example, where the different strands of *lau'ie* are woven together to make the finest *ie Samoa*. The different strands of the *lau'ie* represent all – Pasefika communities including Samoan, health professionals and interested bodies all working together collaboratively for the benefit of our Pasefika peoples (Figure 5.1)



Figure 5.1 weaving of the Samoan *ie maō'i* (fine mat) (Source: Ake Matapula-Tuivaiti, 2016)

I would like to finish my thesis with the words of one of my participants, thus making the circle of *talanoa* complete:

Ou ke iloa ua kele āiga e magaga'o e fai suiga ae o le galuega e fai fa'akasi uma ma kagaka makukua, o kakou makua makukua ma le āiga akoo. A fa'amasagi iai i le 'ai fuafua ma le kooaga e 'aai i fuālaau 'aiga, e fai ai kuka e fai fai a masagi ma fa'aauau ai lava lea a'o la e maua ai le ola maloloiga o le kagaka ma loga lava aiga...ma se'i fai fo'i se fa'agaioi o le kigo auā e lē fa'apea ga o le 'ai 'ae lē fa'agaioi le kigo.

I know that many families want to make changes but it is the responsibility of our adults, our elders and the whole family. If we learn and make a practice of eating less in portion sizes and have more vegetables in our cooking, we will easily adapt to the change that will improve the quality of health for the individual and their families...and be physically active but not just eat and not exercise. (D5)

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Appendix A: Ethics Approval Letter



AUTEC Secretariat

Auckland University of Technology
D-89, WA505F Level 5 WA Building City Campus
T: +64 9 921 9999 ext. 8316
E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

8 July 2015

Elaine Rush

Faculty of Health and Environmental Sciences

Dear Elaine

Re Ethics Application: **15/179 What does 'food literacy' mean for the health of Samoan families?**

Thank you for providing evidence as requested, which satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTEC).

Your ethics application has been approved for three years until 8 July 2018.

As part of the ethics approval process, you are required to submit the following to AUTEC:

- A brief annual progress report using form EA2, which is available online through <http://www.aut.ac.nz/researchethics>. When necessary this form may also be used to request an extension of the approval at least one month prior to its expiry on 8 July 2018;

- A brief report on the status of the project using form EA3, which is available online through <http://www.aut.ac.nz/researchethics>. This report is to be submitted either when the approval expires on 8 July 2018 or on completion of the project.

It is a condition of approval that AUTEK is notified of any adverse events or if the research does not commence. AUTEK approval needs to be sought for any alteration to the research, including any alteration of or addition to any documents that are provided to participants. You are responsible for ensuring that research undertaken under this approval occurs within the parameters outlined in the approved application.

AUTEK grants ethical approval only. If you require management approval from an institution or organisation for your research, then you will need to obtain this.

To enable us to provide you with efficient service, please use the application number and study title in all correspondence with us. If you have any enquiries about this application, or anything else, please do contact us at ethics@aut.ac.nz.

All the very best with your research,



Kate O'Connor

Executive Secretary

Auckland University of Technology Ethics Committee

Cc: Hoy Neng Wong Soon hoyheng@gmail.com, Ineke Crezee

Appendix B1: Study Information Sheet/Poster - English



PARTICIPANTS WANTED!

Food Literacy: What does 'food literacy' mean for Samoan families?

Seeking THREE GENERATIONS of Samoan Women (maternal grandmother, mother & daughter (age 16 years+) from One Household to participate in a *Talanoa* with Hoy Neng Wong Soon, (student, Health and Environmental Sciences Faculty) of the Auckland University of Technology.

Title of Study: Food Literacy: what does 'food literacy' mean for Samoan families?

Participants will be given \$30 koha/mea'alofo upon completion of the study, in appreciation of your time.

Contact Information:

For more information please contact:

- Hoy Neng Wong Soon
- Mobile No: 021 184 0250
- Email: hoyneng@gmail.com or hoywon89@aut.ac.nz

Please take one if you are interested in participating in this study. Thank you!

Food Literacy study	Contact: Hoy Neng Wong Soon	Mobile: 0211840250	Email: hoyneng@gmail.com	Food Literacy study	Contact: Hoy Neng Wong Soon	Mobile: 0211840250	Email: hoyneng@gmail.com	Food Literacy study	Contact: Hoy Neng Wong Soon	Mobile: 0211840250	Email: hoyneng@gmail.com	Food Literacy study	Contact: Hoy Neng Wong Soon	Mobile: 0211840250	Email: hoyneng@gmail.com	Food Literacy study	Contact: Hoy Neng Wong Soon	Mobile: 0211840250	Email: hoyneng@gmail.com	Food Literacy study	Contact: Hoy Neng Wong Soon	Mobile: 0211840250	Email: hoyneng@gmail.com	Food Literacy study	Contact: Hoy Neng Wong Soon	Mobile: 0211840250	Email: hoyneng@gmail.com
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Approved by the Auckland University of Technology Ethics Committee on 08 July 2015 AUTEK Reference number 15/179

Appendix B2: Study Information Sheet/ Poster - Samoan



FA'ASILASILAGA!

Ulutala o le Sailiiliga:

Malamalama'aga i taumafa (meaai ma vaiinu): O le a le uiga o le Malamalama'aga i taumafa i aiga Samoa.

E tolu (3) ni augatupulaga o tama'ita'i (tina o le tina, tina & tama teine e mai le 16 agai i luga le matua o le soifua) oloo nonofo fa'atasi i le aiga e tasi, e mana'omia ona auai i se sailiiliga e fa'atalatalanoa ai ta'ito'atasi ile Talanoa ma Hoy Neng Wong Soon, (tama'ita'iaoga, Health and Environmental Sciences Faculty) o le Iunivesite o le Fa'atufugaga (Auckland University of Technology), o le 'a tautai'ina lenei sailiiliga.

Ulutala o le Sailiiliga:

Malamalama'aga i Taumafa (meaai/ vai'inu): O le ā le uiga o le 'Malamalama'aga i Taumafa i aiga Samoa?

O le a tauaao atu se meaalofo e \$30 i le ma'ea ai o lenei sailiiliga, e amana'ia ai lou taimi ua fa'aavanoaina mo lenei sailiiliga.

Fa'afeso'ota'i mai mo nisi o fa'amatalaga:

- Hoy Neng Wong Soon
- Telefoni: 021 184 0250
- Imeli: hoyneng@gmail.com or hoywon89@aut.ac.nz

Fa'amolemole afai e te fia auai i lenei sailiiliga, ave se pepa e tasi e te fia fa'afeso'ota'i mai a'u. Fa'afetai tele lava!

<p>Malamalama'aga i taumafa Fa'afesootai: Hoy Neng Wong Soon Telefoni: 0211840250 Imeli: hoyneng@gmail.com</p>
<p>Malamalama'aga i taumafa Fa'afesootai: Hoy Neng Wong Soon Telefoni: 0211840250 Imeli: hoyneng@gmail.com</p>
<p>Malamalama'aga i taumafa Fa'afesootai: Hoy Neng Wong Soon Telefoni: 0211840250 Imeli: hoyneng@gmail.com</p>
<p>Malamalama'aga i taumafa Fa'afesootai: Hoy Neng Wong Soon Telefoni: 0211840250 Imeli: hoyneng@gmail.com</p>
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<p>Malamalama'aga i taumafa Fa'afesootai: Hoy Neng Wong Soon Telefoni: 0211840250 Imeli: hoyneng@gmail.com</p>

Approved by the Auckland University of Technology Ethics Committee on 08 July 2015 AUTEK Reference number 15/179

Appendix C1: Participant Information Sheet - English

Participant Information Sheet



Date Information Sheet Produced:

07 April 2015

Project Title

Food Literacy: What does food literacy mean for Samoan families?

An Invitation

Talofa lava! My name is Hoy Neng Wong Soon. I am a Samoan student who is studying at the Auckland University of Technology. This study is contributing to my post-graduate qualification - Master of Health Sciences.

You are invited to take part in the study – Food Literacy: What does it mean in relation to health within Samoan families? Your participation is voluntary and you can withdraw at any time prior to the completion of this study. Please let me know if you feel that there is any conflict of interest. You may choose to take part in this research or not: either way your decision will not advantage or disadvantage you in any way.

What is the purpose of this research?

Pacific people are facing health problems such as being overweight or obese. These health problems have been linked to chronic conditions such as problems with heart and blood vessels, or diabetes.

The purpose of my research is to explore the understanding of the Pacific people in relation to foods, nutrition and the healthiness of what you eat and drink. I want to interview three generations of women in Samoan families to see what food literacy means to our Samoan

people across the generations. My questions will focus on your knowledge around food and how it impacts on your quality of life. I also want to find out who has influence around what food is prepared within the family, and whether this changes across generations.

How was I identified and why am I being invited to participate in this research?

I am trying to recruit you if you are a Samoan woman and there are three generations of women in your family. I am targeting Samoan families living in the Manukau area where most Pacific peoples live. Women of the family usually are the ones who shop, tend to the kitchen and prepare food for the extended family.

I want to *Talanoa* with you so you can share your knowledge and experience with me. This will help me gain insight on what the ‘family culture’ is across generations in the Samoan family when it comes to food.

What will happen in this research?

The study will utilize *talanoa* (individual face-to-face interviews) between you and I (researcher). *Talanoa* might take up 45 minutes or an hour of your time. If the *Talanoa* is in progress and I find that the *Talanoa* is giving me more information on what you share it can take a bit longer but will respect you as a participant if you want to finish the *Talanoa*. The *Talanoa* is the process of making sure that I understand what you mean – so I will check back with you.

What are the discomforts and risks?

There are no known discomforts and risks in this study. We want you to be comfortable.

How will these discomforts and risks be alleviated?

If you feel tired after a while, and we will only talk for as long as you wish and we will talk at a place (your home, church) and at a time that suits you.

What are the benefits?

Your experiences and beliefs through your stories will enable health professionals understand how our people think about food and healthy diets and support healthier food choices that still fit in with our Samoan culture yet help prevent chronic illness in our

community. It will not only benefit the individual participant but the families and other Pacific communities as the information will be shared.

How will my privacy be protected?

Your participation in this study will be kept confidential at all times. Any information that could identify you as a participant will be kept confidential, any information that could identify you, will be de-identified through the use of pseudonyms.

What are the costs of participating in this research?

This study will not cost you financially but *Talanoa* may take up to 45 minutes of your valuable time. To compensate you for your time, you will receive a mea'alofa/ koha \$30 voucher (petrol or grocery) as a token for your valuable time and your participation in the *Talanoa*.

What opportunity do I have to consider this invitation?

You will be given 1-week to decide whether you agree to participate in this study.

How do I agree to participate in this research?

If you agree to participate, you will be provided with an Information Sheet and Consent Form, both in English and Samoan. The Consent Form (English/ Samoan) you will need to complete, sign and return to me.

What if I want to withdraw from the study?

If you want to withdraw from this study, it will not affect you in any way. If there is any collected information from you and you have decided to withdraw from the study the researcher will make sure that any of your collected information will be destroyed.

If you also decided to withdraw from the study, it will also affect the participation of your other family members who will not be able to continue on with the study. This is because the study is focusing on three generations of women from one household unit.

Will I receive feedback on the results of this research?

Yes, you will be provided with the final report of the study. On the Consent Form that you will complete, sign and return to me, you will tick to indicate whether you agree you want a copy of the findings of this study or not. Included in your agreement will be your contact details that I will be able to send you via mail post or if you want as an email with attachment of the findings.

What do I do if I have concerns about this research?

If you have any concerns about this research you can notify in the first instance the Project Supervisors,

Professor Elaine Rush

Email: elaine.rush@aut.ac.nz

Telephone: +64 9 921 9999 ext 9758, or,

Dr. Ineke Crezee

Email: ineke.creezee@aut.ac.nz

Telephone: +64 9 921 9999 ext 6825.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEK, Kate O'Connor, *ethics@aut.ac.nz*, 921 9999 ext 6038.

Whom do I contact for further information about this research?

*Researcher Contact Details: Hoy Neng Wong Soon Email: hoyheng@gmail.com
Mobile: 021 184 0250*

Approved by the Auckland University of Technology Ethics Committee on 08 July

2015, AUTEK Reference number 15/179

.

Appendix C2: Participant Information Sheet - Samoan

Pepa 'o Fa'amatalaga 'o le Sailiiliga



Aso na tusia ai lenei Pepa o Fa'amatalaga:

07 Aperila 2015

Ulutala o le sailiiliga

Malamalama'aga i Taumafa (Mea'ai/ Vai'inu): O le a le uiga o le 'Malamalama'aga i Taumafa (Meaai/ vai'inu) i aiga Samoa?

'O le vala'aulia atu 'o 'oe mo lenei sailiiliga

Talofa lava! O lo'u igoa o Hoy Neng Wong Soon. O a'u o le Samoa oloo aoga nei ile Iunivesite o le Fa'atufugaga (Auckland University of Technology). O lenei sailiiliga o se vaega o le tusipasi oloo o'u aoga ai nei o le Master of Health Sciences.

Ua vala'auliaina oe 'e te auai ile sailiiliga 'Malamalama'aga i Taumafa (meaai/vai'inu): O le a le uiga o le 'Malamalama'aga i taumafa (meaai/vai'inu) i aiga Samoa? E i lou lava faitalia lou auai i lenei sailiiliga pe leai foi. Afai e te fia auai ae i'u ane ua e manao e te fa'amavae mai i lenei sailiiliga, e i lou foi faitalia lena tulaga, e aunoa ma se a'afia ai o lou tagata.

'O le ā le 'auga po'o le fa'amoemoe o lenei sailiiliga?

O le to'atele o tatou tagata Pasefika oloo feagai ma tulaga ōgaōga i gasegase e mafua mai ona o le tausami i meaai e maua ai le tino puta ma oo ai ina maua i ma'i faigata e pei o le ma'i suka ma ma'i e tau ile fatu ma ālatoto.

O le 'auga o lenei sailiiliga o le fia sailiili ma fia iloa lea o lo'u nei tagata i le malamalama o tatou tagata Pasefika i meaai oloo latou tausasami ai. O le a fa'atalanoaina augatupulaga e tolu i tama'ita'i o le aiga. Oloo fia tulimata'i e lo'u tagata pe tu'ufa'asolo le iloa ma le malamalama o

le tupulaga laiti mai le tomai ma le iloa na a'oa'oina ma vaai i o latou tina e ala lea ile tapenaga o meataumafa mo le aiga ma lona tagata toatasi foi. E tulimata'i le malamalama o augatupulaga e tolu nei i itu o le tapenaina ma le faiga o meaai (kuka), faiga o fa'atau o oloa e kuka ai meaai, o le malamalama ile faitauina lea o fa'amtalaga oloo i le pito i tua o meaai ma vai'inu ta'itasi.

Na fa'aapefea ona filifiliina a'u e auai i lenei sailiiliga?

Na filifiliina oe ma le naunauta'iga ia maua tonu le 'autu o le sailiiliga lenei. O le itu lea o lou nofo ai ile aiga Samoa oloo iai augatupulaga e tolu – o le tina o lou tina/tina o lou tama, o le tina o le aiga, ma afafine e ile va o le 16 tausaga aga'i i luga le matua, o loo aumau ai i totonu o Manukau. Ou te fia *Talanoa* ia te oe. O le filifiliina o aiga oloo iai ni tina ma o latou alo tamaitai nei na taula'i ai foi le filifiliga o tagata e auai i lenei sailiiliga.

Ou te fia *Talanoa* ia te outou ina ia mafai ona tou fa'asoa mai ia te a'u lo outou malamalama ma lo outou silafia. O se auala lea ou te talitonu o le 'a mafai ai ona ou malamalama i gaioiga ma le malamalama o tagata ma aiga ta'itasi i le fa'atalanoa'aga o augatupulaga nei e tolu e uiga i meaai/ meatausami.

O le a le faiga o lenei sailiiliga?

O le 'a 'ou *Talanoa* ma sui taito'atasi o le 'a auai i lenei sailiiliga. E 45 minute pe i luga atu o lou taimi o le 'a alu pe fa'aaogaina mo lenei *Talanoa*. Afai ae iai se tulaga e fa'apopoleina ai oe ona taofi ai iina le *Talanoa*, ae faamoemoe atu o le 'a 'e logoina mai lo'u nei tagata pe 'a o'o i se tulaga fa'apena. O fa'amatalaga uma o le 'a 'e tu'uina mai 'o le 'a aveia lea ma fa'amatalaga fa'amaumau o le 'a 'ou fa'aaogaina lea mo lenei sailiiliga.

E iai ni tulaga e ono fa'apopoleina ai a'u pe ni faigata e oo iai lenei sailiiliga?

E iai le talitonuga o le 'a leai se tulaga fa'apea o le 'a fa'apopoleina ai lou tagata i lou auai i lenei sailiiliga. Ae afai ae iai se tulaga faapena e tataua ona fa'ailoa mai pea lo'u nei tagata ina ia taofi le *Talanoa* ae fai sina au malologa. E mafai ona toe fa'aauau le *Talanoa* pe afai ua toe maua sou malosia e toe fa'aauauina ai.

O le a se faiga ia te'a ai nei tulaga fa'apopole pe a tula'i mai?

O le 'a 'e mafai ona 'e malolo mai le *Talanoa*. E tataua ona e fa'ailoa mai pea ia te a'u pe afai ua 'e mana'omia se malologa mai le *Talanoa*. O le 'a iai foi se mea'alofa/ koha \$25 (pepa tala 'olua poo le penisini o lau taavale) e tau'a'ao atu pe 'a ma'ea lenei *Talanoa* ona 'o le fa'aavanoaina mai o lou taimi.

Ta te *Talanoa* i se nofo'aga 'e te finagalo iai (o lou maota, falesa, pule mai oe ile nofoaga) i le taimi foi e talafeagai ma oe.

O a ni lelei o le 'a maua mai i lenei sailiiliga?

‘O lou auai i lenei sailiiliga o le a tele se lelei ma le aoga i lou auai i le *Talanoa*. O ou manatu ma lou malamalama’aga o le a mafai ona e talanoa mai ai o le a fesoasoani lea i ē oloo galulue mo le fa’aleleia o le soifua maloloina o tatou tagata Samoa ina ia faia ni auala e talafeagai mo o tatou tagata ma lo tatou aganu’u aemaise ile itu e tau i meaai/ meatausami. O le a avea foi lou leo e faaogaina lea e faalelei atili ai ni tulaga oloo manaomia ona faaleleia mo le alualu i luma o le ola maloloina o tatou tagata ma aiga fa’apea foi tagata Pasefika uma i tulaga tau i meaai ma vai’inu ina ia fa’aitiitia ai le maua o tatou tagata i ma’i oloo fa’apea ona tatou maua ai i nei vaitaimi.

E fa’apefea ona puipui’a lo’u tagata?

O lou auai i lenei sailiiliga e lē fa’alauiloaina. Na o a’u o le ‘a iloa uma fa’amatalaga ma ni tusitusiga e oo i ni lipine pu’e leo na ‘o a’u lava o le ‘a iloa nei fa’amaumauga e aunoa ma se fa’alauiloaina i nisi tagata. O le ‘a fa’aigoaina foi fa’atalatalano’aga ta’tasi e pei o le Aiga1, T/Tina1 = Tina o le tina1, Tina1, Afafine1, Aiga2, T/Tina2, Tina2, ma le Afafine2.

E iai se totogi ‘o le auai i lenei sailiiliga?

E leai se totogi o le auai i lenei sailiiliga ae na o sina mea’alofa/ koha o le a tauaao atu pe a ma’ea lelei le *Talanoa* o lenei sailiiliga. E \$30 (o le pepa tala’oloo poo le penisini o lau taavale) o le a tuuina atu ile ma’ea ai o lenei sailiiliga. O sina mea’alofa mo lou taimi taua ua fa’aaluina mo le *Talanoa*.

O le a le umi ou te mafaufau ai pe ou te auai pe leai?

E tasi (1) le vaiaso e tuuina atu ia te oe ‘e te mafaufau ai pe ‘e te ioe ‘e te auai pe leai.

E fa’apefea ona fa’ailoa atu ou te fia auai?

Afai ‘e te fia auai, o le ‘a tuuina atu ia te ‘oe se Pepa o Fa’amatalaga ma le pepa o le Maliēga. O le pepa o le Maliēga o le ‘a ‘e fa’atumuina, saina ma toe fa’afoi mai ia te a’u. O nei pepa o Fa’amatalaga ma le Pepa o le Maliēga o le ‘a iai le kopi e fa’aPeretania ma le kopi e fa’aSamoa ‘e te filifili iai poo fea ‘o gagana e te fia fa’aogaina.

Ua ou lagona ua ou lē fia auai/ lē fia fa’aauuina lo’u auai i lenei saili’iliga?

Afai ae ua e lē fia fa’aauuina lou auai i lenei sailiiliga, o le ‘a lē a’afia ai oe i se tulaga e fa’apopoleina ai oe. Afai ‘e iai ni fa’amatalaga na ‘e tu’uina mai ile taimi o le sailiiliga o le ‘a fa’alēaoga’ina ma ‘e lē fa’aaogaina lava ile sailiiliga lenei.

Afai foi ua ‘e lē finagalo e fa’aauuina lou auai i lenei sailiiliga, o le ‘a a’afia ai foi sui e to’atolu o lou aiga ma ‘o le ‘a lē fa’aaogaina foi ni fa’amatalaga o le ‘a lā tu’uina mai ile taimi o le sailiiliga. O le

ala o lea tulaga ona o le sailiiliga oloo tulimata'i fa'amatalaga ma ma malamalama'aga o sui e to'atolu mai aiga o le 'a auai i lenei sailiiliga.

Ou te mauaina se lipoti o le iuga o lenei sailiiliga?

Ioe, o lea lava. O le Pepa o le Maliēga oloo iai le vaega e te saina ai ma fa'ailoa mai ai e te manao i se kopi o le iuga o le sailiiliga lenei. O le 'a lafoina atu i lau pusameli poo le imeli foi poo fea lava le auala 'e te finagalo e tuuina atu ai le lipoti 'o le iuga 'o le sailiiliga lenei.

O le 'a le mea 'e fai pe afai 'e iai ni o'u popolega ona 'o lenei sailiiliga?

Afai ae iai ni ou popolega e uiga i lenei sailiiliga e mafai ona e fa'ailoa mai Faiaoga Fa'aūluūlu nei,

Polofesa Elaine Rush

Imeli: elaine.rush@aut.ac.nz

Telefoni: +64 9 921 9999 ext 9758, po'o,

Dr. Ineke Crezee

Imeli: ineke.creeze@aut.ac.nz

Telefoni: +64 9 921 9999 ext 6825.

'O so'o se tulaga lava e fa'apopoleina ai 'oe 'e uiga i lenei sailiiliga ia vave logo mai le Failautusi Sili 'a le AUTEK, Kate O'Connor, ethics@aut.ac.nz, 921 9999 ext 6038.

O ai ou te fa'afeso'ota'iina atili e uiga i lenei sailiiliga?

Tagata Fa'aūluūlu o le Sailiiliga:

Hoy Neng Wong Soon

Telefoni: 021 184 0250, *Imeli:* hoyneng@gmail.com

**Approved by the Auckland University of Technology Ethics Committee on 08 July 2015,
AUTEK Reference number 15/179.**

Appendix D1: Consent Form - English

Consent Form



Project title: Food Literacy: What does Food Literacy mean for Samoan families?

Project Supervisors: Professor Elaine Rush

Dr. Ineke Crezee

Researcher: Hoy Neng Wong Soon

- I have read and understood the information provided about this research project in the Information Sheet dated 07 April 2015.
- I have had an opportunity to ask questions and to have them answered.
- I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.
- I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.
- If I withdraw, I understand that all relevant information including tapes and transcripts, or parts thereof, will be destroyed.
- I agree to take part in this research.
- I wish to receive a copy of the report from the research (please tick one): Yes No

Participant's signature:

Participant's name:

Participant's Contact Details (if appropriate):

.....

Date:

Approved by the Auckland University of Technology Ethics Committee on 08 July 2015 AUTEK Reference number 15/179.

Appendix D2: Consent Form - Samoan

Pepa o le Maliēga



Ulutala o le Sailiiliga: ***Malamalama’aga i Taumafa (meaai/ vai’inu): O le ā le uiga o le ‘Malamalama’aga i Taumafa i aiga Samoa?***

Faiāoga Fa’āluūlu: ***Professor Elaine Rush***

Dr. Ineke Crezee

Fa’āluūluga o le Sailiiliga: ***Hoy Neng Wong Soon***

- Ua ou faitau ma ou malamalama i tulaga uma o lenei sailiiliga oloo ta’ua i le Pepa o Fa’amatalaga na tusia ile aso 07 Aperila 2015.
- Na iai le avanoa e fai ai a’u fesili ma tali ai foi a’u fesili e uiga i le sailiiliga.
- Ou te malamalama o le ‘a iai ni fa’amatalaga tusitusia ma fa’atalatalanoaga uma, e oo i ni lipine pu’e leo ma ona fa’amatalaga tusitusia o le a faia i le taimi o lenei su’esu’ega.
- Ou te malamalama afai ae ou fia fa’amavae mai lo’u ‘auai i lenei sailiiliga poo ni fa’amatalaga na ou tu’uina aua lenei sailiiliga ao le’i ma’ea lelei lenei sailiiliga, ‘e lē aveva ma se tulaga ou te ono a’afia ai pe fa’apopoleina ai a’u.
- Afai ae ou fa’amavae, ou te malamalama o a’u fa’amatalaga uma lava e oo i lipine na pu’eina ai a’u fa’amatalaga ma fa’amaumauga tusitusia, poo a lava nisi fa’amatalaga na maua mai i sa’u tala, o le ‘a fa’alēaogaina.
- Ou te malie ou te auai i lenei sailiiliga.
- Ou te mana’o i se kopi o le lipoti o lenei sailiiliga (fa’amolemole fa’ailoa lau tali ile togi):
Ioe Leai

Saini a lē ua malie:

Suafa o lē ‘ua malie:

Fa’amaumauga mo feso’ota’iga a lē ‘ua malie (pe ‘a talafeagai):
.....
.....

Aso:

***Approved by the Auckland University of Technology Ethics Committee on 08 July 2015 AUTEC
Reference number 15/179***

Appendix E1: Parent/ Guardian Consent Form - English

Parent/Guardian Consent Form



Project title: **Food Literacy: What does food literacy mean for Samoan families?**

Project Supervisors: **Professor Elaine Rush**

Dr. Ineke Crezee

Researcher: **Hoy Neng Wong Soon**

- I have read and understood the information provided about this research project in the Information Sheet dated 07 April 2015.
- I have had an opportunity to ask questions and to have them answered.
- I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.
- I understand that I may withdraw my child/children and/or myself or any information that we have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.
- If my child/children and/or I withdraw, I understand that all relevant information including tapes and transcripts, or parts thereof, will be destroyed.
- I agree to my child/children taking part in this research.
- I wish to receive a copy of the report from the research (please tick one): Yes No

Child/children's name/s :

Parent/Guardian's signature:

Parent/Guardian's name:

Parent/Guardian's Contact Details (if appropriate):
.....

Date: **Approved by the Auckland University of Technology Ethics Committee on 08 July 2015**
AUTEC Reference number 15/179

Appendix E2: Parent/ Guarding Consent Form - Samoan

Maliēga a Matua/ Tagata oloo va'aia

fa'aletulafono le tamaiti'iti



Ulutala: Malamalama'aga i Taumafa (mea'ai/ vai'inu): O le ā le uiga 'o le 'Malamalama'aga i taumafa i aiga Samoa?

Faiāoga Fa'aūluūlu: Professor Elaine Rush

Dr. Ineke Crezee

Fa'aūluūluga o le Sailiiliga: Hoy Neng Wong Soon

- Ua ou faitau ma ou malamalama i tulaga uma o lenei sailiiliga oloo ta'ua i le Pepa o Fa'amatalaga na tusia ile aso 07 Aperila 2015.
- Na iai le avanoa e fai ai a'u fesili ma tali ai foi a'u fesili e uiga i le sailiiliga.
- Ou te malamalama o le 'a iai ni fa'amatalaga tusitusia ma fa'atalatalanoaga uma, e oo i ni lipine pu'e leo ma ona fa'amatalaga tusitusia o le a faia i le taimi o lenei su'esu'ega.
- Ou te malamalama afai ae ua fia fa'amavae mai la'u tama/ fanau mai lo latou 'auai i lenei sailiiliga poo ni fa'amatalaga na ou tu'uina aua lenei sailiiliga ao le'i ma'ea lelei lenei sailiiliga, 'e lē aveva ma se tulaga ou te ono a'afia ai pe fa'apopoleina ai a'u.
- Afai ae ua fia fa'amavae mai la'u tama/ fanau, ou te malamalama o fa'amatalaga uma lava e oo i lipine na pu'eina ai ni fa'amatalaga ma fa'amaumauga tusitusia, poo a lava nisi fa'amatalaga na maua mai i fa'amatalaga a la'u tama/ fanau, o le 'a fa'alēaogaina.
- Ua ou malie e 'auai la'u tama/ fanau i lenei sailiiliga
- Ou te mana'o i se kopi o le lipoti o lenei sailiiliga (fa'amolemole fa'aailoa lau tali ile togi):
Ioe Leai

Suafa o le Tamaitiiti/ Fanau:

.....

Saini a Matua/ Tagata oloo vaaia fa'aletulafono le tamaitiiti/fanau :

.....

Suafa o Matua/ Tagata oloo vaaia fa'aletulafono le tamaitiiti/
fanau:.....
.....

Fa'amaumauga mo feso'ota'iga a Matua/ Tagata oloo vaaia fa'aletulafono le tamaitiiti/
fanau (pe 'a talafeagai):
.....

Date:

***Approved by the Auckland University of Technology Ethics Committee on 08 July 2015
AUTEC Reference number 15/179***

Appendix F1: Indicative Questions - English

Food Literacy: What does food literacy mean for Samoan families?

Indicative Questions for *Talanoa*:



1. What is your understanding of the initiatives (health messages) that are promoting healthy eating (food literacy)?
 - i. What are your thoughts of the health messages promoting healthy eating?
 - ii. What do you know about food literacy? (Looking at healthy foods apart from food preparation, cooking skills, etc.)
 - i. Do you understand the health messages that promote your understanding of how to prepare food, what you need to prepare foods with, understanding whether foods you buy are good for your health (nutritious)? If so, please explain or give examples?
2. What is your understanding of a 'healthy diet'?
 - i. What does a 'healthy diet' mean to you?
 - ii. Do you know/ or can you give an example of what a 'healthy diet' is? please
3. Can you identify nutrition problems/ issues that NZ has?
 - i. Do these problems influence your family's eating habits/ practices?
 - ii. *Do you know about health problems that are caused by what we eat and drink? Have these health problems influenced the way you eat or your family's eating habits? (focus on family's/ individual eating practices)*
4. What/ Who influences your views/ understanding/ practices of the foods you prepare for your main meals (breakfast, lunch, dinner, supper) and,
 - i. How much you have to prepare? (What determines your knowledge of food preparation, cooking skills, and understanding what healthy foods mean? What to buy – takeaway meals or shopping for groceries to prepare meals? Your practices as regards a healthy dietary intake).

- ii. What influences your understanding/ practices of the foods you cook for your family or yourself? Or the food you eat? Who has the most influence on your understanding?
5. Do the ‘opinions’ (ages of adults in the family) affect your dietary practices (eating habits)? (Foods and what is needed to buy for the preparation of foods? Foods to prepare? Etc.) If yes, how do their opinions affect your eating habits?
 - i. Do the adults in your family affect what you eat and how you eat (how you prepare food/ shopping, etc.)? Who has the most influence? and why?
6. Do you know what Food Literacy means?
 - i. Have you heard of Food Literacy? (What do they know? Any challenges in understanding FL?)
7. What is your understanding of the benefits of dietary diversity? (various healthy foods that are highly recommended i.e. fruits and vegetables, wholemeal/ multigrain bread, etc.)
8. When you buy foods do you read *Nutrition Information (NI)? Food Labels? (Nutrition recommendations)?*
 - i. Do you know/ understand the meaning of NI/ Food Labels on the foods you buy? If yes, please explain?
 - ii. Do you use NI to help you decide what to buy? (Is that why you buy foods, based on NF? If yes, please explain.)
 - iii. What do you look for when using NI/ Food Labels when shopping? (*Ask for their own resources from their cupboard/ pantry? Examples from their pantry!*)
9. Do you have any questions to ask me?
10. Or, do you have any suggestions/ recommendations of the things that might improve your understanding and others too of food literacy?

Appendix F2: Indicative Questions - Samoan

Fesili mo le faatalatalanoaga (Gagana Samoa)

Malamalama'aga i Taumafa (meaai/vai'inu): O le a le uiga o le Malamalama'aga i taumafa i aiga Samoa?



Fesili mo le *Talanoaga*:

1. O le a sou silafia/ malamalama'aga i feau oloo fa'alauiloa mai ai le taumafa i meaai paleni e maua ai le soifua maloloina lelei? (fa'alauiloina o le taua o le taumafa i meaai paleni?)
 - i. O le a sou finagalo faaalia/ e ala i nei fa'alauiloa o le taumafa i meaai paleni?
 - ii. O le a sou silafia poo lou malamalama'aga i le taumafa (i meaai paleni ma le tapenaina poo le kukaina o meaai paleni, ma le fa'atauina o meaai e lelei mo lou soifua)?
 - i. E te malamalama i nei feau oloo fa'alauiloa mai ai le taua o lou malamalama ile tapenaina/ kukaina o meaai mo oe ma lou aiga, o a ni mea e manaomia mo le faiga o le kuka, ma ia e silafia poo meaai oloo e faatauina e lelei mo oe ma lou aiga (meaai paleni)? Afai e ioe, faamolemole fa'amatala atili mai lau tali pe aumai foi ni fa'ataitaiga?
2. O le a sou silafia/ malamalama o le a le 'taumafa i meaai e paleni ma lelei mo oe'?
 - i. O le a se uiga o le taumafa i meaai paleni ia te oe?
 - ii. E mafai ona e ta'u mai se fa'ata'ita'iga faamolemole?
3. E te silafia ni gasegase oloo maua nei i Niu Sila e mafua mai i meaai oloo tatou aai ai?
 - a. *E te iloa ni gasegase e mafua mai i meaai oloo tatou aai ai nei? O sui ai la le faiga o kuka i totonu o lou aiga?*
 - b. Mai nei gasegase, o iai se suiga o le faiga o meaai/ meataumafa oloo kukaina mo lou aiga? (*tagai ile faiga o meaai a le aiga/ ma sui taitoatasi o le aiga?*)
4. O a ni/ poo ai foi e mafua mai ai ona e iloa o meaai/ meataumafa nei e tatau ona kukaina mo lou aiga? (malu o le taeao, taumafataga o le aoauli ma le afiafi, ma le sapa [supper]) ma,
 - i. O le a se tele o se kuka e te tapenaina mo lou aiga? (o ai e te iloa mai ai kuka, ma filifili poo a kuka e fai mo le aiga, ma lou malamalama foi poo a meaai paleni? O a

- foi mea e tatau ona fa'atau mo le kuka – poo le fa'atau mai o le kuka mai le fale'aiga poo le fa'atau o mea e kuka ai meaai mo le aiga atoa?)
- ii. O fea/ o ai na e iloa mai ai le faiga o kuka e tatau ona fai mo lou aiga? Poo meaai foi e te taumafa ai? O ai e pito sili ona tele sona sao i lou iloa/ malamalama'aga ile faiga o kuka?
5. E te fa'aaogaina manatu mai le aumatutua o lou aiga e fesoasoani ai ia te oe poo a kuka e tatau ona fai? Poo a foi ni fa'atauga e fai mo le kukaina o le meaai mo le aiga? Afai e ioe, faamolemole e mafai ona fa'amatala atili mai le uiga o lau tali?
 - i. E iai se leo o tagata matutua o lou aiga i meaai e tapena mo le taumafataga mo le aiga/ o le faiga o tou fa'atauga o meaai? O ai e pito sili ona tele sona leo ile faiga o nei tonu ile tapenaga o le faiga o tou kuka? ma Aisea?
 6. E te silafia le uiga o le 'Malamalama'aga i taumafa'?
 - i. Na e fa'alogu muamua iai? Fa'amatala mai le uiga o lau tali faamolemole? E iai ni faiga o lu'i ai lou malamalama'aga ma lou iloa i lea tulaga? (FL)
 7. O le a sou malamalama/ iloa ile taua/ lelei o le felanulanua'i o meaai e te taumafa ai? (e le na o meaai masani ao le iai o fualaau aina taumafa mata ma nisi o falaoa oloo fai mai fatu o laau ma nisi.)
 8. A e alu e fai lau fa'atau mo meaai (ma mea e tapena ai lau kuka) e te faitau i *Fa'amatalaga o Meaai (Nutrition Information)/ Food labels* oloo ile pito i tua o meaai oloo e fa'atauina? Afai e ioe, faamolemole fa'amatala mai le uiga o lau tali?
 - i. E te malamalama i Fa'amatalaga o meaai (NI) oloo i meaai oloo e fa'atauina? Afai e ioe, faamolemole faamatala atili mai le uiga o lau tali?
 - ii. E te fa'aaogaina Fa'amatalaga o meaai (NI) pe a e alu e fai au fa'atauga mo meaai? (O le mafuaaga lea e te fa'atauina ai meaai nei ona o lou faitau ma iloa mai Faamatalaga o meaai (NI)?)
 - iii. O a ni vaega o ile Fa'amatalaga o meaai (NI) e te siakiina pe a e alu e fai au fa'atauga mo meaai? (*Talosaga e aumai se meaai/ apa supokeli mai lo latou kapoti*)
 9. E iai ni au fesili e te fia fesili mai ai ia te a'u?
 10. Poo, iai foi sou finagalo faaalua e ona faalelei atili ai lou silafia ma lou malamalamaga ma nisi foi o tagata i le malamalama'aga o taumafa (food literacy)?

Appendix G1: Round 1 Findings

Codes	Sources	Frequency
balanced diet is good	13	36
Fa'amalositino (physical activity)	9	4
I know and practise healthy eating	14	40
ola maloloina (healthy lifestyle)	10	21
Eat vegetables	8	12
I know chronic diseases	15	26
chronic diseases changed diet	7	7
diet change in NZ	11	27
diet in Samoa	10	17
learnt from food courses & from workplaces in Samoa	5	10
I do not know Food Literacy	14	6
I do not know (some) Nutrition Information and Food Labels	5	8
eager to know more about healthy eating	10	9
It's expensive to buy vegetables	2	3
expired foods check	14	5
family needs to make healthy lifestyle changes	15	6
cook for other family members	11	13
Other family members don't like healthy foods change	8	5
learned cooking from mother	15	17
learned cooking from other female relatives	10	8
health professionals & community programmes promotions on foods	11	24
I hear health promotions advertising	11	19
I understand healthy eating	12	35
I know Nutrition Information and Food labels	9	12

Appendix G2: Round 1 of talanoa common words and phrases that informed the extraction of initial themes.

Knowledge and understanding (Food literacy) knowledge of healthy eating	
Common words	Common phrases
<p>strength, portion sizes, Heart Foundation Tick, more grains, brown/wholemeal bread, nutrition information, fruits and nuts, gardening, different nutrients, portion size, servings, healthy foods, expiry date, fatty food, more vegetables, less starchy foods, eat and exercise</p>	<ul style="list-style-type: none"> • Balanced diet is good • I know and practise healthy eating • Staying healthy is good from healthy food • A balanced meal is good for my children and family • we should have carbohydrates, protein, vitamins • it's a must to have a portion of meat or fish, more vegetables and less starchy food • brown bread is good for our family • start to eat less junk foods • it balances out your health • different types of food cater for what your body needs • take out the fatty parts in corned beef, lamb flaps, chicken skins, and no pig's head • add more vegetables in cooking • fruits as dessert • nutrients needed in your body • it's good for the body and blood • three meals a day, breakfast, lunch and dinner but have a light snack like fruits in between meals

	<ul style="list-style-type: none"> • sugary food and drinks are not good for teeth and health • Should drink more water • have a balanced meal and exercise • I read food labels when I do food shopping • I check if it's expired • You eat and exercise but not just eat
<p>Awareness of chronic diseases in association with nutrition</p>	
<p>Diabetes, high blood pressure, pregnancy diabetes, high cholesterol, heart diseases, overweight and obese, 'fat', 'too heavy' cancer</p>	<ul style="list-style-type: none"> • I have diabetes and blood pressure • They said I have borderline high blood pressure • Some relatives have diabetes and other illnesses • Gaining too much weight that you don't need • Having breathing problems because of being big • Many people are overweight because of fatty food and too much starchy foods • We need to eat less portion of taro for us Samoans and Pasefika people too • Fizzy drinks have too much sugar and can cause diabetes • Change of diet and lifestyle

Access to knowledge and understanding	
Mum (mum's influence), family members practice, midwife, nutrition course, food processing course, school, health professionals (diabetes team, community nurses, dietitian, etc), doctor's/ midwife's referral of community programmes Vaka Tautua, Toa (Pacific), village team, school sports day, Radio Samoa	<ul style="list-style-type: none"> • I know that from my daughter • My daughter said it is good for me • My mum makes/cooks/ buys it so I do it too • My mum said it is healthy • I see what mum cooks for us and learn from there • My nana and other elders want it so mum cooks it • My midwife said it is good food for a healthy pregnancy • Doctor(s) gave me pamphlets on food • The community team talked about good food for our health • Midwife said eat the right amount of food • Sessions with my midwife about my diabetes and diet • Midwife/ doctor said to join community programmes because most speak Samoan in these programmes • Hearing from health professionals on the Leikio Samoa • My older sister does it so I do it • We attend our village and/or school meetings/ sports team
Dietary acculturation	
Food outlets, supermarket, family	<ul style="list-style-type: none"> • We rely too much on shops for food • Our people are buying too much sugary drinks • Easy access to food takeaways

garden(s), relative's garden	<ul style="list-style-type: none"> • We buy stuff to cook for our family meals • We buy taro and banana from the shop • We grow our own taro patch but for luau • We have our vegie garden at the back • We share foods when we see it is enough for others (extended families and friends) • other extended relatives have their 'own garden' so they share sometimes
Language family members, health professionals	
Mum, nana, elders, other female relatives,	<ul style="list-style-type: none"> • Mum started eating healthy • Mum found out how important it is to eat healthy • Nana tends the garden and we help her • I am making good food for my children • I prepare a balanced meal for my family
Health professionals midwife GP (community health programmes & school health workshops (Samoan units))	<ul style="list-style-type: none"> • My midwife advised me to eat healthy food • My doctor said I need to change my diet to have more vegetables • Doctors said it is good having a healthy family so prepare good healthy meals • Health professionals said have less junk foods • Vaka Tautua session on the right food • Vaka Tautua has free exercise programmes • Toa (Pacific) has sessions on 'good food' • Vaka Tautua tells us how much to eat and what to put on our plates • Programmes use the language that we understand • I understand what the doctor said because he/she spoke Samoan • My midwife advised me in Samoan • We joined other community exercise programme (walking group, Zumba, etc.) • We joined the gym

Appendix H: Glossary

AUT	Auckland University of Technology
aganu'u	culture
aiga	family
āoga	school
asosi	association (<i>asosi</i> is a Samoan word that has been adopted from the English word 'association')
BMI	Body Mass Index
CVDs	cardiovascular diseases
DM	Date marking
FAO	Food and Agriculture Organization
feagaiga	covenant
fa'amalositino	exercise (physical activity(ies))
fa'amanuiaga	blessing
fa'atosaga	midwife, midwives
faufautua	advisor(s)
FOP	Front-of-pack
GPs	General Practitioner, family doctor(s)
GDM	Gestational Diabetes Mellitus (pregnancy diabetes)
ie Samoa maō'i	Samoa fine mat (the finest mat)
IL	Ingredients List (food label)
kalapu	social club (in the context used in this thesis, <i>kalapu</i> is

	adopted from the English word ‘club’ referring to social group)
kama’i (informal of <i>tama’i</i>)	small
kilikiti	cricket (Samoan cricket)
lakapi	rugby
lalaga	weaving
lau’ie	strands of the pandanus (woven to make fine mats)
lumana’i	future (of the family) referring to ‘younger generations
lumana’i o le aiga	future generations
luau, palusami	baby taro leaves cooked in coconut cream
malu o aiga	‘shelter’ of families
matai	chief, chiefly
matua/ matua matutua	elders, ‘family’ elders
ma’umaga talo	taro patch
MOH	Ministry of Health
nana	grandmother
NCDs	noncommunicable diseases
NI	Nutrition Information
NIP	Nutrition Information panel
nu’u	village
NZ	New Zealand
OECD	Organisation for Economic Co-operation and Development

Pasefika	Samoan word for ‘Pacific’, Pasifiki, Pasifika (Pasefika and Pacific are used interchangeably in this thesis, also in respect to my Samoan participants)
palagi/ papālagi	Caucasian/ European/ Westernised
PL	Percentage labelling (food label)
ta’amilosaga	tournament (sports)
talanoa, talanoaga	conversation, talk, to talk
tapu	sacred, sacredness
to’ana’i	Sunday lunch (meal)
T2D, T2DM	Type 2 Diabetes, Type 2 Diabetes Mellitus, diabetes
Toa Pasefika	Toa Pacific (Treasuring Older Adults and Pacific Aiga Carers – a health service provider that hosts community health programme, valuing Pacific older peoples and their health and their carers)
USP	University of the South Pacific
vā	relational space between individuals (a code of behaviour that is expected between family members within the aiga (family), including strangers)
Vaka Tautua	A national health service provider that provides community health programme and services supporting Pacific communities.
WC	abdominal circumference (waist)
WHO	World Health Organization
WHtR	waist-to-height ratio

Appendix I: Bibliography

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