

FIJI JOURNAL OF PUBLIC HEALTH

FIJI WELLNESS

harvest the wellness within you



Vol:2, Issue:1
2013
Jan, Feb, Mar

**In this
Issue:**

*Wellness Initiatives
in Fiji*

The **FJPH**, is a Fiji based Journal published for Public Health practitioners, public health researchers, clinicians and all allied health practitioners. Our goal is to provide evidence based information and analysis they need to enable them to make the right choices and decisions concerning their health and health services provided to ensure better health for all.

FJPH is published quarterly.

The format of **FJPH** accommodates three types of submissions:

1. Original Academic/Scientific Research Papers - Research-based works addressing a specific area of public health or any other general topic in health- between 3,000 and 4,500 words.
2. Structured Abstracts- for original research & systematic reviews of specific public health interest - between 500 and 3,000 words.
3. Perspectives –Reviews, Opinion pieces that analyze or discuss a recent issue or development in public health - between 250 and 2,500 words.
4. Field notes –Journal-style pieces, with a more personal voice, words.

Submission Procedures

1. All manuscripts should be prepared according to the guidelines below
2. The call for submissions and a description of the optional theme can be found in the Health Research web page.
3. All manuscripts should be submitted via the online submissions form on the Research web page.

Publication Eligibility

1. For each manuscript, at least one of the authors needs to be an undergraduate, medical, or graduate student at a nationally accredited institution.
2. The submitted manuscript has not been published nor will be published in another publication at the undergraduate, graduate or professional level.
3. The manuscript is the author's own original work, and the authors are the sole authors of the manuscript.
4. The primary author is willing and able to work with FJPH editors in revising the submission if it is selected as a likely candidate for publication.

Submission Types

1. Original scientific Research - Research - based works addressing a specific area of public health or any other general topic in health
2. Abstracts – structured abstracts for original research and
3. Perspectives –Reviews, Opinion pieces that analyze or discuss a recent issue or development in public health
4. Field notes –Journal-style pieces, with a more personal voice, based on direct work in the field

Formatting

- All manuscripts should be submitted as double-spaced, size or .docx only).
- Do not include the name of the manuscript's authors any pages except the title page.

Content Guidelines for Perspectives and Field Notes

Perspectives are opinion-based pieces. Field Notes take a more personal, informal tone that addresses public health work the Notes, we are looking for submissions that address fresh and exciting developments in public health from an interdisciplinary perspective. Perspectives and Field Notes should be grounded in the preexisting literature base. For citations and references, please the end of the submission.

Content Guidelines for Original Academic/Scientific Research Papers Papers

The appropriate structure of Academic/scientific Research Papers varies based on the topic of the manuscript. With a few exceptions, following sections: a) Abstract, b) Introduction, c) Methods, d) Results, e) Discussion, f) Acknowledgments and References, g) Tables and Figures.

Tables, Figures and Images

- Tables, figures and images should be the original work of the manuscript's authors and should be included at the end of each manuscript.
- Captions should describe what the table/figure/image shows and the conclusion that should be drawn.
- Labels and axes should be clearly marked and readable. all tables, figures, and images should be submitted in high resolution please.
- References
- You can find resources on the use of APA style at the APA Style Guide.

The views and opinions expressed in **FJPH** do not necessarily reflect those of the Editorial Board, editorial staff, or their support organisations.

FJPH Contact: Ministry of Health, 88 Amy Street, Suva.

Email: fjph12@gmail.com

Facebook: FJ PH,

Skype: fj.ph1

Website: www.fijijournalpublichealth.com.fj

For all enquiries, subscriptions to:

Mere Delai, Health Research Office, Ministry of Health, Suva , Fiji

Phone: 00 679 330633 Extension 340170

Email: mere.delai@govnet.gov.fj

Proudly Sponsored by:



Subscription information: See inside back cover

Acid Free Paper: This Journal has been printed on paper that meets the American National Standard Permanence of Paper for Publications and Documents in Libraries and Archives (ANS/NISO z39.49. 1992(R1997) and the International Standard Information and Documentation – paper for documents – Requirements for Permanence (ISO 9706: 1994)



Fiji Journal of Public Health

ISSN Print: 2307-7484

CONTENTS

EDITORIALS

GUEST EDITOR - *Dr. Margaret Cornelius* i

EDITOR IN CHIEF - *Dr Josefa Koroivueta* ii

RESEARCH

The “New Primary Health Care” in Fiji – Its Impact and Implications on the Practitioner in an indigenous setting – A Case Study 1
Dr Isimeli Tukana

“Junk Food” Promotion to Children and Adolescents in Fiji 27
Silvia F Hope, Dr Wendy Snowdon, Lindsay B Carey, Priscilla Robinson

Exposure to Advertising of ‘Junk Food’ in Fiji 36
Astika Raj, Dr Wendy Snowdon, Drauna M

2011 Fiji Hibiscus Festival Health Audit 38
Kiti Bulamainaivalu, Salanieta C Naliva, Ditoga K Sauliga, Lesa Vuli, Tracy Prasad

PERSPECTIVE
Wellness Fiji –from NCD Crisis (2011) to Healthy Islands (1995) 42
Dr. Isimeli Tukana

Oral Health at Ante Natal Clinics – A health Promotion Perspective 44
Nemaia Loga

FIELD NOTES
Working Towards Wellness 47
Dr Margaret Cornelius, Dr.Isimeli Tukana

Healthy Settings Initiatives – A Report from the Northern Division 49
Peni Veilave

Developing Community Settings 53
Peni Veilave

Diabetic Foot Care Training Workshop-Northern Division, Labasa 61
Brigid Buick

Patron

- Dr Neil Sharma
Minister for Health

Editor in Chief

- Dr Josefa Koroivueta

Editorial Team

- Dr Isimeli Tukana
- Dr Eric Rafai
- Dr Dave Whippy
- Dr Margaret Cornelius
- Dr Devina Nand
- Mrs Mere Delai
(Coordinator)
- Mr. Tomasi Bulimaibau
(Graphic Designer)
- Ms.Rosi Tubuitamana
(Typist/Secretariat Support)

GUEST EDITOR - Dr Margaret Cornelius

The wellness focus is a welcome change from the 'gloom and doom' statistics of Non-Communicable Diseases. Being well is our birthright, so the care of a human being starts from conception. The broad and basic concepts of healthy living are captured in the "Rainbow approach – Targets for Healthy Living".

This flyer describes the basics of keeping healthy and avoiding major illness. These concepts need to be shared with the community and not remain in the health workers jurisdiction. The community has a choice in deciding to be well and healthy or heading towards illness.

Many of the influences that derailed people towards ill-health are obvious in the reports contained in this publication. The challenge then is to make a pledge to one-self and one's loved ones to move towards wellness – one step at a time looking at the seven vital and natural human behaviors that are open to outside influences (breathing, eating, drinking, moving, thinking, resting and reproducing). These are the seven (7) domains of influence that we need to target from a very early age. It becomes harder in adults once habits are formed. Parents, relatives, friends and care-givers need to create a safe and healthy environment for the younger ones. The health workers know the problems of unhealthy living so there needs to be a conscious effort made by them to stay well or change behavior and practices towards wellness.

Each health worker is a health educator and a role model by default. We, as health professionals, can start a revolution in behavior change by being the example. We need to give clear and simple messages to the community for healthy living, support wellness activities through settings approach, help with development of policies for supportive environment and build personal knowledge and skills of people to make healthier choices and deal with outside influences in an informed manner.

Partnerships with other government departments and non-government organizations will definitely multiply the effect of development partner input into wellness promotion. For example, a tobacco-free setting can progress to a violence-free setting to a crime-free setting to a model for Wellness Fiji. This involves at least three government departments. Such model settings then become a 'wellness icon' to their neighboring settings, areas, small islands and the whole of the nation. A healthy competition will enhance the achievement of wellness earlier in the other setting.

The idea of building an integrated community development task force or committee within a setting merits special mention. This empowers the community to decide and take action for the betterment of all members. All seven (7) cohorts need to be represented on these committees and this could be the gateway for community service organizations or other organizations to channel their support.

More engagement and support needs to be provided for other settings such as schools, workplaces, faith-based and corporate organizations to promote wellness as a matter of urgency. It took many years to reach this NCD crisis and it may take that many years to revert to a wellness state. Hence, the process needs to be fast-tracked if the country has to see more productivity, increasing lifespan, decreasing morbidity and premature mortality within the next 5 to 10 years. The positive change towards wellness will reduce the disease burden to the public health system and support provision of quality services.

A very strong challenge is issued to all health workers to act now if the Healthy Island vision is to be achieved in this century.

EDITOR IN CHIEF - Dr. Josefa Koroivueta

A timely publication to glow the promised and enabling environment of wellness from the NCD - Non-communicable Disease crisis. It resonates well that wellness is freely available to humanity. Infact there is no expressed viewpoint that demarcate the approach on the basis of GDP - Gross Domestic Product or MDG - Millenium Development Goal attainment or social landscape of a nation. Understanding the multiplicity of factors and values that influence and determine the health status of a community Dr I Tukana interestingly has provided an inclusiveness approach that seeded in Primary Health Care. It is time to reflect and redirect. It capitulates the evolution of the program to meet the quickened societal changing realities. There has been great strides in medicine. The sociomedical paradigm in the 17th and 18th century. The loss of social medicine in the 19th century and the successes thereafter.

The socio-ecological paradigm is thus a suitable framework for explaining the conditions and causes of health and ill health and could be used to guide health-related activities. Obviously, the socio-ecological paradigm will have to integrate biomedical, psychosocial and socio-medical perspectives.

The link of people to the environment cannot be undermined for the least of efforts. Health Practitioners need to refocus their attitudes and roles beyond the biomedical approach. It is health towards a more socio ecological one which is holistic and addresses cultural, economical, political, and environmental as well as social determinants of health.

Junk food advertising has successfully penetrated the minds of children and adolescents. Hope S F et al study confirmed our past perceptions and the power behind media marketing. "A total of 14 events sponsored by 'junk food' products were found to have taken place in the designated one year. The majority of these events targeted children, families or schools". The enemy has to be put down and out.

Closely linked is the study by Astika R, Snowdon W and Drauna M on exposure to advsertising of Junk Foods in Fiji. Food and drink advertisements were only a small proportion of the total advertisements (9-15%), adverts for less healthy food and drink exceeded those for healthy ones. The study from the 2011 Fiji Hibiscus Festival Health Audit showed overweight and obesity was common in the population screened and high amongst the I-Taukei women with age range from 40 – 61. The rising rate of overweight and obesity in the country has been cited in previous publications.

Bingo and here it comes, Wellness Fiji, a home grown product with great return of investment and the solution to the NCD crisis. From ideas to concept and now Dr Tukana and Cornelius published the approach towards the outcome. The work towards wellness needs support and the opportunity through the Fiji Health Sector Support Program gels well.

Facility based studies at the Diabetes Foot Clinic and Oral Health provides the extremes of indicators of rising NCD's in Fiji. It is enriching that the settings of health promotion and wellness in communities in Fiji. This issue hurls to us the NCD crisis, not to erase the health efforts at its very best, but to ignite the hope in a solution, Wellness Fiji. As was depicted the approach changes, and with it greater engagement to meet the changing social determinants and environmental risks of non healthy foods.

THE “NEW PRIMARY HEALTH CARE” IN FIJI ITS IMPACT AND IMPLICATIONS ON THE PRACTITIONER IN AN INDIGENOUS SETTING – A CASE STUDY IN 2001

Dr. Isimeli Tukana^{1}*

Keywords: Primary Health Care, Settings, Indigenous Community, Health Promotion, Health Island, New Primary Health Care, Kadavu

ABSTRACT

Health promotion is a process of enabling people to take control and improve their health. The concept was adopted by the Ministry of Health in Fiji in 1997, and gave birth to what is referred to as the “new primary health care” – the strengthening of the health promotion capacity of the existing primary health care system. This study aims to describe the impact of new primary health care on existing primary health care practitioners in Fijian villages, with the purpose of drawing implications on the processes that may be useful in other indigenous settings in Fiji. A case study was undertaken to reveal the impact of health promotion in a localized indigenous setting. The case demonstrated that indigenous Fijian settings are communally oriented and are affected by three systems – tradition, Christianity and the Westminster systems of governance – all of which are potential platforms for health promotion. The study depicts that the major impact of the new primary health care on the practitioner pertains to the need to acquire health promotion knowledge, attitude and practice, and related understanding of community development and qualitative research. The acquisition of these knowledge and skills may then enable the practitioner to strengthen the health promotion capacity of his/her primary health care practice. In this way, an integrated and appropriate practice model has more chance of evolving and health outcomes will follow.

INTRODUCTION

Statement of the Problem

Current Primary Health Care (PHC) practice in Fiji needs to be reoriented and reorganized towards the “new PHC” concept. If the PHC practitioners continue to be mechanical and ritualistic in their practice as is currently the case, then they are insensitive to the situational context and will not produce improved health outcomes.

Purpose of the study

The purpose of the study is two fold:-

- To describe the impact of the “new PHC” system in Fiji on PHC practitioners in Fijian villages, through a case study of experiences on the island of Kadavu
- To draw implications from this study on the processes that might be able to be used elsewhere in Fiji.

Rationale

The rationale of the study is that policy without appropriate action is unproductive. If PHC practice at

the “new PHC” policies, improved or better health outcomes should follow.

Background to the problem

Policy statements concerning “collaboration” and “partnerships” are key political words of the 1900s in the health arena. If people (individually or communally), who are recipients of health care take active part in making decisions about their care, they have better health outcomes (Elwyn et al, 1999).

Primary Health Care (PHC), since 1978, was always meant to be a government approach to health that was essential, accessible, affordable, appropriate and available to the community (WHO, 1978). The delivery of such was also meant to be with the community’s full consultation and participation, and in a spirit of self-reliance and self-determination (Godlee, 1997).

In Fiji, PHC has gradually developed and established itself firmly since 1978. PHC services have been accessible to peripheral communities through

¹ Wellness Center, Ministry of Health

*Address for Correspondence isimeli.tukana@govnet.gov.fj

the decentralization of medical services and personnel. However, current PHC practice in Fiji at the “peripheral social level” (WHO, 1978, p40), has been, experientially, health facility oriented, disease based and delivered vertically downwards in a manner that is narrow, departmental and paternalistic.

The continued provision of “fish instead of fishing lines” to peripheral or rural communities in Fiji by the system for the last 20 years has contributed to the dependence of such communities on the system for primary health development. The current model of practice is acquired through training, as current PHC practitioners, predominantly trained in tertiary hospitals logically “practice what they have been preached”.

In 1997, the Ministry of Health adopted the concept of health promotion through the “Healthy Islands Initiative” (MOH, 1997). It stated the strengthening of the health promotion (HP) capacity of the existing PHC system as one of its key components – thus the birth of the term “new PHC”.

The “new PHC” of the “healthy island” concept is founded on the premises that health is a social rather than a medical concept, and human habitats could provide an ideal context for health promotion – “the enabling of communities to control and improve their own health” (Ritchie et al, 1998; WHO, 1986). The concept recognizes that for health to emerge, there needs to be community involvement, collaboration across all sectors and integration of health and environment through a “settings” approach (Ritchie et al, 1998).

Specific Objectives

The specific objectives of the project were as follows:-

- 1 To describe what a PHC practitioner should know about practicing in Fijian villages.
- 2 To determine what practice were acceptable in Fijian villages.
- 3 To describe how advice was translated into action in Fijian villages.
- 4 To determine where advice should be given.
- 5 To determine when advice should be given.
- 6 To determine which existing PHC personnel was best suited for practice in Fijian villages.
- 7 To determine who were the stakeholders that should be advised.

Method and Context

The objectives were met by describing the implementation of new PHC principles on Tavuki Bay Community (TBC) in Kadavu Province, Fiji.

Literature Review

Health Concepts – The “Sacred”

Health

Health has always been defined in relation to people and where they live (environment) – individually, communally and nationally.

Individually, health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (WHO, 1985).

Communally, people’s health and welfare depends on how they live, what they eat and drink, how human relationships are developed and organized, how resources are distributed to different sectors of human endeavors and what government activity takes place (Hellberg, 1986).

Nationally, the health status or situation of any country depends on the health status of people at the peripheral social level (WHO, 1978, p40).

Primary Health Care

Primary Health Care (PHC) is defined as a practical approach to health care delivery that is universally accessible, acceptable, affordable (WHO, 1978, p8), appropriate, and available (Godlee, 1997) to individuals and families in the community. WHO and Godlee argued that the health care must be delivered with the community’s full participation and in the spirit of self-reliance and self-determination. Tarimo (1991) attributes 3 meanings to PHC:-

- i) It is the first level of contact between the community and organized health care.
- ii) It is essential health care consisting of eight (8) elements – nutrition, adequate and safe water supply, basic sanitations, maternal and child health, communicable disease control, health education, immunization and provision of essential drugs.
- iii) It is characterized by equity, intersectoral action and community participation.

Primary means more than Primary Medical Care (PMC). It means essential, necessary and relevant – not primitive or second- rate care as is universally interpreted (Hellberg, 1986).

Health Promotion

Health Promotion (HP) is defined as ‘the process of enabling people to take control and improve their health’ (WHO, 1986). The focus goes beyond the disease based medical and behavioral model to include the social determinants of health. The enabling process stresses the central concepts of community empowerment and community participation, (Camiletti, 1996).

The five (5) identified main areas of action for HP as documented in the Ottawa Charter (WHO, 1986) are:- i) Reorientation of health services, ii) Developing personal skills, iii) Strengthening community action, iv) Building public policy and, v) Creating supportive environments.

The Ottawa charter has led to approaches to HP in which the needs of the community (rather than disease) became the starting point for intervention. The importance of creating an environment which supports healthy choices was recognized, without losing respect of cultural, social, political, economic and physical factors that shape health.

HP thus views the pursuit of health as a responsibility that needs sharing and networking between the health provider and the consumer. To activate this end, community development is seen as strategy (Camiletti, 1996).

Community Development

Community Development (CD) is defined as ‘an ongoing and complex process of dialogue, exchange, consciousness raising, education and action directed at helping the people concern to determine and develop their own version of community, (Ife, 1995). The development process is complex, full of dilemmas and problems, which require unique and creative solutions. If argues there is no single right formula to ‘what is a community’ and no single right war to develop it.

Ife documents two (2) models of CD. Firstly, the traditional model results in profits for the elite, hunger and starvation for the poor, breakdown of village communities, creation of urban fringe dwellers and decline of basis health, education and social services. The second model, called the alternative model is based on the fundamental principle that wisdom comes from below rather than above. The model develops and supports community level structures that enhance empowerment. For example, Rogers and Kincaid (1980) reported a CD initiative in Oryu Li, South Korea where the womenfolk banded together to achieve a remarkable record of CD through strong local leadership, local organization for self-development, and adequate government support. In another CD initiative, Marnat et al (1996) reported on a very successful village anti-smoking program in Fiji. the factors underpinning success included the consideration of community values, cultures and the use of existing traditional forums and systems and the active involvement of the villages in the planning phase.

CD as a discipline is thus seen as of value to HP because of the similarity in their approaches, that is they promote health through a social and environmental approach, in a process of enabling through to empowerment (McMurray, 1999).

Empowerment

Empowerment is both a process and an outcome. It is defined as an international ongoing process, centered in the local community, involving mutual understanding, critical reflection, caring and group participation in a context of tradition, political and economical environment (Camilleti, 1996). The process enables people lacking in a proportional share of resources to gain greater access to and control over these resources. People are able in empowerment, to gain understanding and control over personal, social, economic and political forces in order to take action to improve their life situation (Baum, 1995).

There are four (4) ways of empowerment in society – (Community Development in Health, 1988). They are power over information, relationships, decision making and resources. Alternatively, Ife (1995) argues that for genuine empowerment to occur, the people's sufferings and aspirations, as said by them, must be linked to an analysis of the broader social, economical and political structures, which have caused the people's oppression and disadvantage.

An excerpt from Program of Action for sustainable development of small island developing nations (United Nations, 1994) stated that 'the survival of small island developing states is firmly rooted in their human resources and cultural heritage, which are their most significant assets,.....all efforts must be taken to ensure the central position of people in the process of sustainable development'.

Health Practice – The 'Profane'

The Practice of Health Care

Health has always been equated with the provision of medical care dispensed by specialists, using narrow medical techniques, which benefit the privileged few (Hellberg, 1986). It is found however, that growing investment in the health care system has not been translated into improvement in the health of populations. Unfortunately, it is assumed that ensuring the people's accessibility to high quality care services will lead to improved process of sustainable development.

The Practice of PHC

PHC has become in the last 20 years, a service that is narrow and 'top down' in a centralized hierarchical bureaucracy (Christopher, 1997). Werner (1993) described three major watersheds undermining the essence of PHC – selective PHC in the early 1980s, the cost of recovery or user finance system of the late 1980s and the World Bank takeover in Third world health care policies of the 1990s.

Christopher (1997) reports that despite improvements in maternal and child health in the developing world, twenty five percent (25%) of the whole burden of premature mortality and morbidity are lower respiratory infectious, diarrhea, perinatal disorders and measles. The most important factors identified to be contributing to the above were malnutrition, poor water, sanitation and hygiene.

Tarimo (1990) argues that the most practical unit for doing PHC is the district, where health professionals, auxiliaries, workers from other sectors and community members can assume collective action for the health of the community. Unfortunately, this team potential is seldom realized. The activity of various programs and institutions continue to be piecemeal and poorly coordinated, while health services are concentrated in particular areas, leaving large population groups with little or no access to health care.

The Attitude of Health Practitioners

Current health practitioners have an attitude and approach to health that is disease based, didactic and authoritative (Ritchie, 1994). Perhaps, a review of the roots and development of western medical science may throw light into understanding as to why health practitioners have such attitudes and approach to health practice.

Noack (1987) describes the development of western medical science (thus practice), which may be summarized as follows:-

The roots of western medical science lie in the Hippocratic tradition. There are two elements. Firstly, health is a state of balance. Secondly, both the human being and the environment are important factors.

In the 16th century, the mechanistic or Cartesian era emerged. Medical scientists and physicians focused almost exclusively on the human organism, neglecting the human environment. This paradigm is also known as the biomedical paradigm, where disease is analogous to 'the breakdown of the machine and the practitioner's task is the repair of the machine.'

In the 17th and 18th centuries, the sociomedical paradigm became prevalent. According to this paradigm, the health or ill health of any population is linked to its socioeconomic and sociocultural factors. The task of medicine then was to remove the unjust socio-economic and environment factors hampering both the life and health of such population. The strategy used was comprehensive and included sanitary, social reform, access to provision of medical care, prevention of disease and accidents, and health education. However, towards the end of the 19th century, social medicine lost most of its momentum.

The loss of momentum was said to be due to the growing success of biomedicine, and partially due to improved living and working conditions in industrialized countries.

The growing success of biomedicine culminated in the development of the Germ theory together with the doctrine of 'specific etiology of disease'. Bacteriology was seen as the ultimate medical truth. Health, according to this framework equaled the absence or low levels of disease agents in the physical environment.

Consequently, two models of practice emerged with the development of western medical science – the paternalistic and the informed choice models (Elwyn et al, 1999).

In the paternalistic model, the patient seeks 'expert' help from the medical practitioner and complies with the medical regimen. The practitioner does what is thought best for the patient without necessarily eliciting the patient's preferences. The patient becomes a passive recipient of the medical practitioner's expert advice. This model clearly has the superficial attraction of maintaining the practitioner's status (and the patient's dependence).

In the informed choice model, the patients receive information from the practitioner about treatment choices, which they are then left to make. The information imbalance between the patient and the practitioner is recognized, that is, technical knowledge resides in one party (the practitioner) while references reside in the other (patient) a concerted effort is made to fully inform the patient about the treatment choices available. The patient now has both the information required and the personal preferences necessary for decision-making. The decision making control has been given to the patient. For example, the practitioner may fully explain the risks and benefits of antenatal screening for Down's syndrome, but steadfastly declines to direct the patient decision.

In both models, it is found that the discussion of the patient's condition occurs in less than 25 percent (25%) of consultation. There is little meaningful dialogue between the practitioner and the patient about the nature of the problem. Involvement and empowerment are distant fantasies.

Health – The Current Trend

The Shift in Paradigm

In the medical and health sciences, we are currently witnessing the beginning of a shift from biomedical science towards the more global perspective of the socio ecological paradigm. The socio ecological paradigm may eventually replace the biological paradigm, ideally by integrating the latter within the former (Noack, 1987).

The Socio ecological Paradigm

Noack 's (1987) description of the socio ecological paradigm may be summarized as follows:-

Weaknesses of the Germ theory and the doctrine of specific agents were found and pointed out. It was found that communicable diseases not only involve infectious agents but also factors such as nutrition, working and living conditions, education and income. Therefore, microorganisms are necessary but not sufficient for the development of infectious disease. A crucial role is played by the susceptibility of individuals and therefore by host factors.

Consequently, immunology and the concept of resistance were discovered and provided scientific bases for a era of disease prevention. For example, the immunological breakthrough saw the emergence of immunizations or vaccinations and clinical immunology.

The concepts of resistance became most powerful, particularly resistance to physical and psychosocial factors and other potential risks to health. According to this framework, to maintain health requires resistance resources (specific or generalized) to cope with the disease agents and other risks to health, the framework also suggests that health or ill health does not depend merely on social environmental factors, but also on a person's physical and psychological potential to cope effectively with internal and external demands. Thus, most conditions of ill health and good health have heterogeneous origins.

This multifactorial, socio-ecological paradigm of health gained strong support from epidemiological research on chronic disease, particularly studies of cardiovascular morbidity and mortality.

Mortality from all causes of cardiovascular deaths were found to be related to high risk practices such as smoking cigarettes, consuming too much alcohol, being physically inactive, obese or underweight and sleeping fewer than seven or more than eight hours per night (Noack, 1987, p10). The higher rates of morbidity and mortality in less developed countries were explained by a serious shortage of food and by extensive poverty due to socio economic and political developments. In lower social classes and minority groups in developed countries, the higher prevalence of poor health and chronic disease has been accounted for by their living and working conditions, which may produce excessive physical and psychosocial stress and foster lifestyles that are not conducive to health.

The socio-ecological paradigm is thus a suitable framework for explaining the conditions and causes of health and ill health and could be used to guide health-related activities. Obviously, the socio-ecological paradigm will have to integrate biomedical, psychosocial and socio-medical perspectives.

Implications for Health Practitioner

Current health practitioners may need to refocus their attitudes and roles beyond the biomedical approach to health towards a more socio ecological one which is holistic and addresses cultural, economical, political, and environmental as well as social determinants of health. Practitioners must understand the link between people and their environment (Litsios, 1994). Through experimental learning, they may need to understand the multiplicity of factors and values that influence and determine the health status of a community (Ritchie, 1994).

Elwyn et al (1999) refers to the need to develop the second half of the consultation where the practitioner becomes involved with their clients in the decision making process. It is important to note that sharing information (the information choice model) and sharing decisions are not synonymous. Sharing decision has separate goals (collaboration and partnership) in consultation, thus requiring different skills.

The process of shared decision making becomes integral to the wider concept of client centered consulting. However, sharing of information must precede shared decision-making.

As such, practitioners may need to increase their time with their clients and improve ways to communicating risk to their clients. They may need to develop further tools and strategies beyond education and clinical skills (Lawson et al, 1996). They may need to appropriately involve their clients in the decision making process, and therefore need to acquire new (and appropriate) communication skills.

Practitioners need to develop skills in advocacy, mediation, negotiation (Ritchie, 1994), active organization, motivation, interaction, community and conflict management, political, marketing and skills on when to be autocratic, bureaucratic and democratic and how to maintain the equilibrium (Lawson et al, 1996).

Elwyn et al (1999) refers to the need to develop the second half of the consultation where the practitioner becomes involved with their clients in the decision making process. It is important to note that sharing information (the information choice model) and sharing decisions are not synonymous. Sharing decision has separate goals (collaboration and partnership) in consultation, thus requiring different skills. The process of shared decision making becomes integral to the wider concept of client centered consulting. However, sharing of information must precede shared decision-making.

As such, practitioners may need to increase their time with their clients and improve ways to communicating risk to their clients. They may need to develop further tools and strategies beyond education and clinical skills (Lawson et al, 1996). They may need to appropriately involve their clients in the decision making process, and therefore need to acquire new (and appropriate) communication skills.

Practitioners need to develop skills in advocacy, mediation, negotiation (Ritchie, 1994), active organization, motivation, interaction, community and conflict management, political, marketing and skills

on when to be autocratic, bureaucratic and democratic and how to maintain the equilibrium (Lawson et al, 1996)

The Republic of The Fiji Islands

The Republic of Fiji, located in the South Pacific, 2800 kilometers northeast of Sydney, Australia, lies between latitude 15 degrees and 20 degrees south and longitude 177 degrees east and 178 degrees west and comprises over 300 islands, with a total land area of about 18.33 thousand square kilometers, covering 700,000 square kilometers of ocean.

With an estimated population of 831,000, sixty percent live in rural areas. Fifty percent of the total populations are indigenous Fijians, forty percent are of Indian descent and other races (Chinese, Europeans, part Europeans and other Pacific Islanders) account for the remaining six percent. About thirty four percent of the total populations are children less than 15 years and 4 percent are over 65 years of age.

Fiji is a 'unitary state' as specified in section 86 of the constitution (Rabuka, 2000) due to its two systems of government – the central government (consisting of the President, Prime Minister, Cabinet and the various Ministries) and the indigenous system of administration (consisting of the President, Great Council of Chiefs, Native Land Trust Board and so forth). The status of the Great Council of Chiefs is a parallel and equal governing system to Cabinet.

Fifty percent of the populations are Christians, thirty eight percent are Hindus, eight percent are Muslims and others four percent. English is the national language and the national economy is centered on sugar, tourism and gold.

The Health Status of Fiji Islanders

For every death, there are four births (MOH, 1997). Life expectancy at birth is about 67 years. Seventeen out of one thousand children born alive die before their first birthday; about four out of one thousand children less than five years die annually. More than eighty percent of children are covered by immunization by their first birthday. Trained personnel care for more than ninety percent of pregnant women having live birth, almost all live deliveries are delivered by trained personnel. Forty four percent of women in the reproductive age group use modern contraceptives methods.

About 85% of the populations are accessible to safe water (90% in the urban areas and 80% in the rural areas). Similarly, about 85% of the population has adequate excreta disposal facilities (90% in the urban and 80% in the rural areas) (MOH, 1997).

Currently, the five leading causes of hospital admissions (rates are per 100,000) in decreasing order are diseases of the respiratory system, circulatory system, injury and poisoning, digestive system and infectious and parasitic diseases. The leading causes of mortality in hospitals in decreasing order are diseases of the circulatory system, infectious and parasitic disease, diseases of the respiratory system, neoplasm and diseases of the genitourinary system (MOH, 1997).

For diseases under the WHO – EPI (Expanded Program for Immunization) program, cases of tuberculosis and measles still occur and deaths from tuberculosis have been documented. On the other hand, Notifiable communicable diseases such as dengue, influenza, meningitis, diarrhea, and acute respiratory infection are still reported (MOH, 1997).

Primary Health Care in Fiji

Organizational Structure

As of 1997 (MOH, 1997), there are one hundred and seventy four (174) primary health care centers and twenty (20) district / first level referral hospitals.

The most peripheral government PHC facility is a nursing station, staffed by a district nurse. Proximal to the nursing station is the medical area. A medical area includes a health centre and at least one nursing station. A medical assistant/officer heads a medical area and the health centre would normally have two nurses. The subdivision level is the next level of service, which is analogous to district/ first level referral hospitals. A typical district PHC team would include the subdivision medical officer, a subdivision health sister, school health sister and a health inspector.

The medical services available in the hospital would normally include outpatients, special outpatients, inpatients, laboratory services, radiographic services, dental services, dietetics, pharmacy and physiotherapy. A subdivision comes under a divisional office and there are three such divisions in Fiji – central / eastern, the western and the northern. In a vertical fashion, services available at the subdivision levels have their heads of department at the divisional level.

At headquarters level, PHC comes under the Director of Primary and Preventive Health. In a similar fashion, departmental heads have offices at the headquarters level, arranged vertically.

Commitment to PHC

The central government has always shown a commitment to PHC as evidenced below.

‘Government focus in the health sector is geared towards preventive health as compared to curative health. This involves the delivery of preventive health services with greater community participation, particularly in the rural area. In this context, the emphasis is on decentralization of health services to bring them closer to the people’ (Hon. Ah Koy, 1998, p28)

‘The Ministry of Health (MOH) aims to provide a high quality national health system, that is accessible, appropriate, responsive and equitable.....’ (MOH, 1997, p3)

The Current Practice

While in theory the above is current practice, in reality it is different. The central government’s emphasis is on building hospitals (Ah Koy, 1998, p28)

At the peripheral level, PHC is best described as health facility oriented, disease based and vertically delivered in compartments. The thrust of the PHC program at the periphery is to deliver all the components of PHC within the time frame. In essence PHC in Fiji is predominantly primary medical care (PMC).

The vast majority of current PHC practitioners are products of the Fiji School of Medicine (FSM) and the Fiji School of Nursing (FSN). Having trained predominantly in a tertiary hospital, doctors, nurses and other paramedical practitioners carry with them, logically, institutional, hierarchical, disease and curative based approach to health with the accompanying paternalistic and informed choice models of practice. The approach and practice of PHC in the peripheral communities is predominantly as such.

The communities in turn passively and become dependent on the system (as in hospitals) they view health as treatment of disease and see the PHC system as solely responsible for their health in Fiji.

In the last twenty years, health education activities in Fiji to address risk factors have been undertaken through the PHC structure within the Ministry of Health (NCHP, 1996, p3). Traditionally, this was largely focused on diseases, aimed at individuals and vertically delivered through the PHC system. Whilst this approach still has value in certain situations, Fiji realizes that the medical model of intervention that has worked well to reduce mortality and morbidity from infectious diseases has been less successful with threats stemming from patterns of lifestyle, pollution or poverty. Medical services by themselves do not cover other important determinants of population health (MOH, 1998, p5).

Therefore, an approach was needed that goes beyond the health education model. Health Promotion (HP), a comparatively new field emerging in the 1970s was a result of the growing realization that the medical intervention model did not cover other important determinants of population health. Contemporary views of health promotion go beyond the health education model, and evidence from many countries indicates that well executed HP interventions can bring about positive changes in the health of populations (MOH, 1998, p5)

Healthy Islands (HI) Initiative

In 1995, the Ministers of Health of Pacific Island countries met in Yanuca Island, Fiji and articulated their own vision of Health. The Ministers adopted the concept of Health Islands (HI) as the “unifying theme for HP and protection in the island nations” of the Pacific for the 21st century (Ritchie et al, 1998).

HI should be places where:-

- Children are nurtured in body and mind
- Environments invite learning and leisure
- People work and age with dignity
- Ecological balance is a source of pride (WHO, 1995)

The concept is founded on the premise that health is a social rather than a medical concept, and human habitats could provide an ideal context for the promotions of health. The concept reflects that of Healthy cities, where HP and environmental health collaborate particularly focusing on improving living conditions and environment in order to enhance lifestyles and patterns of living.

A setting consists of a place, and the structural patterns of living that occur in that place (Ritchie, personal communication). A setting approach is the way to proceed and the focus should be collaboration and coordination through partnerships for action. It recognizes social relationships, harnesses the existing cultural patterns and utilizes the collective energy of the community.

In essence, the HI concept recognizes that for health to emerge in a setting there needs to be community involvement, collaboration across all sectors and integration of health and the environment.

The Government Response

In response to the regional movement of HI, the central government, in collaboration with international agencies (UNDP, WHO) and other groups are developing a national framework to integrate health and environment into planning for sustainable development. The project aims to enhance the country's capacity to integrate and harmonize the various activities related to health, environment and sustainable development (MOH, 1998, p17).

The Ministry of Health Commitment

In 1997, the first corporate plan developed by the MOH recommended that "Health promotion, protection and prevention.....be given the highest priority."

This is reflected in the MOH corporate goal, the first being "To prevent diseases, promote healthy lifestyle and raise the standard of living." (MOH, 1997, p4)

Who is Responsible ?

The responsibility for HP within the MOH lies specifically within the department of Primary and Preventative services.

The National Centre for Health Promotion (NCHP), a unit within the Ministry's Primary and Preventative health system (formerly the Health Education Unit) is developing a leadership and support role for HP in the Ministry. The NCHP is designed, not only to address the prevention of illness and promotion of good health but also to strengthen the MOH's capacity of the Primary and Preventative Health Care Services.

Implication for Practice

Whilst traditional PHC practice in Fiji has focused on the decentralization of medical services to the community in the last 20 years, the "new PHC" output now focuses on building the community's own capacity to primary health development.

The Indigenous Community

An important element in the socio ecological paradigm is the society and its patterns of living. Wise and Nutbeam (1994) defines an indigenous community as a specific group of people living in a social structure and exhibiting some awareness of their identity as a group.

The Indigenous Fijian

51% of Fiji's total populations are indigenous Fijians; the majority of whom live in communally oriented villages (Marnat et al, 1996). They comprise the majority landowning communities in Fiji, with proprietary rights to more than 83% of all land in the country, together with associated traditional fishing rights, or "qoliqoli". Their numbers continue to grow at 1.8% per annum compared to the national population growth of 0.8% (Qarase, 2000).

The Village ("Koro")

The village is the most peripheral and basic indigenous social setting, living basically on what they get from the land and the sea.

The Fijian in the Village

The hereditary “chiefly” system structures social authority and roles by birthright and by election (Roberts, 1997). Ideally, an indigenous Fijian is born and registered into the existing extended family unit of his or her father’s village. This unit is called the “I Tokatoka”. The registration involves the automatic transfer of the newborn’s name from the national birth registry to the Fijian birth registry, called the “I Vola ni Kawa Bula (VKB)”. The newborn inherits his/her paternal traditional status and social role which may be one of many – a chief, chief maker, chief herald, warrior, priest, fisherman, farmer, carpenter, cook, healer, etc.

Chief makers elect village chiefs from eligible candidates. In most cases, the eldest in the chiefly unit is selected. The other unit heads are selected from within through consensus. In most cases, the eldest is also selected to head the unit.

Dwelling houses are arranged depicting social status in Fijian villages. One is able to intelligently determine a villager’s social status in a village through the position of the villager’s residence in relation to the chiefly residence. In a Fijian home, hierarchy is well illustrated on the dining mat. The father sits at the top end of the mat. The children then take their positions according to age, with the boys seated towards the upper end and the daughters the lower end of the dining mat. The best food is served to the top end; the mother and the youngest child have to be satisfied with whatever is left. Mealtimes are also used as a family meeting time.

Organization Structure

There are four basic levels of Fijian organization – the village (koro), district (tikina), province (yasana) and confederacy (matanitu vanua). There exists a carefully defined and (by the Fijian themselves) well understood system of polity, which dictates the position the different districts hold with respect to each other, as well as the degree of submission which each dependant owes to his principal (Cyclopedia of Fiji, 1988).

Channels of Communication

Village Council

The village chief heads a village council. The council includes the village headman (called the Turaga

ni koro), heads of the traditional units, the women, youth and church representatives. The village headman is elected from the village population. He performs formal roles in the administration of the village. He is the entry point of government officials to the village. Most village councils also include a village worker, usually a woman elected from the general village population. The chief and the village headman represent the village to the district council.

District Council

All villages chiefs and village headmen are members of this forum, which also include elected representatives from the women, youths and the church groups in the district. The district council is at the core of local government. They meet quarterly to discuss issues of common interest and to conduct administration (Roberts, 1997). The district chief and an elected district nominee represent the district to the provincial council.

Provincial Council

The provincial council meet biannually to coordinate development activities in the province and to formally liaise with departments of the central government (Roberts, 1997). The administration of the above forum are coordinated and funded by the Ministry of Fijian Affairs through its provincial offices. Resolutions of the provincial council are relayed down to the villagers through the chiefs, district representatives and the village headman.

The Fijian Cultural Context

The Fijian is logical in his way; he does not believe without proof. Proof positive is tendered by observations (Cyclopedia of Fiji, 1998). Fijian are more concerned about their social rather than their financial or economic capital (Qalo, 2000). The development of the group is generally more important than the development of the individual (Marnat et al, 1996).

Essential values of Fijian are sharing, togetherness and respect for authority. The ideal Fijian is a person who has respect for tradition, customs and other persons; is kind hearted and good natured; generous to all; and who encourage group solidarity (Marnat et al, 1996). Conflict are typically arbitrated through the larger community.

Traditional Calendar

The Fijian calendar runs from June to May. They mark seasons by the flowering of various plants, as well as by the cultivation of the yam (*Dioscoria*), their staple article of food, upon which they found their calendar (see Table 1).

Table 1: The Traditional Calendar

June / July	The land is cleared for cultivation
August	Yam fields are dug and planted
September	Putting reeds to yams to enable them to climb up
October	Balolo makes its appearance in small numbers
November	Balolo is seen in great numbers and caught
December	A fish called nuqa comes in isolated numbers
January	Nuqa fish arrive in great numbers
February	Offering of the first dug yams are made to priest
March	Digging up yams and storing them in sheds
April	Reeds (gasau) begin sprout them afresh
May	The Doi, a tree plentiful in Fiji, flowers

(source: *cyclopedia of Fiji*, 1988 p.19)

Health, Illness and Death

Death and illness within the traditional Fijian culture, even with the presence of western medicine, are still commonly considered to have a spiritual or supernatural cause (Marnat et al, 1996). The concepts of illness are multilayered in that they might simultaneously be punishment for wrongdoing, the result of a broken "Taboo" or the disturbance of sacred forces. Illness in the Fijian sense has nothing to do with sanitation, nutrition, vector, waste control, animals, etc.

It is commonly believed that individual health and illness are closely related to the overall sense of interpersonal harmony in the community.

A full treatment for illness in most cases involves correcting the supernatural forces of illness or re-establishing harmonious relationships in the community. It is not uncommon that Fijian patients declare taking traditional remedies before presenting to a health clinic. (Marnat et al, 1996).

Kava Ceremony

One of the ceremonies which help to create a sense of group solidarity is drinking "kava" (powered root of *Piper Methysticum*) a mild relaxant, euphoriant an hallucinogen. Traditionally sacred, a deep level of respect is given to its use (Marnat et al, 1996).

The ceremony surrounding kava is sometimes use to create change or to enforce a village "taboo". Taboos are extremely influential since most Fijians believe that if a taboo is violated, ill health or injury will occur to anyone who breaks it (Marnat et al, 1996).

The Church and the Government

Two external organizations impact on the lives of indigenous Fijian – Christianity and the Westminster system of governance. A Fijian is daily torn between family, traditional, church and government obligations.

Christianity

Most Fijians profess to be Christians. Christians arrived and established itself in Fiji in 1835 ending such traditional practices as cannibalism, tribal warfare and polygamy, to name a few. The church has also been documented to have significantly contributed to indigenous education and health.

The church continues to play a significant role today. The Christians calendar runs from March to March. Qalo (2000) reports that the land and the church are the two powerful abstract social forces in Fijians. Any adjustment without paying attention to these "social capital" cannot be serious about improving their lives.

The Government System

The chiefs ceded Fiji to Queen Victoria in 1874 and received independence in 1970. The system of governance remains to be predominantly a Westminster type of governance. At the village level, two parallel government systems operate.

1. The Ministry of Fijian Affairs through its Provincial office administers services to the people through the provincial, district and village council. The provincial office is headed by a chief administrator called the Roko Tui. All village headmen in the province come under and are paid through this office.
2. The Ministry of Regional Development through the District Office heads all the other government services in a province. The government departments include Health, Education, Agriculture, Fisheries and Police etc.

Village projects proposals ideally come through the village, district and provincial council through provincial office, thence to the District office. The government contributes two thirds and the village contributes one third to the cost of a village project.

Current health practice in Fijian villages

A health practitioner's role in Fijian villages is that of an advisor. Fijian villages have their own sets of health by-laws governed by the Ministry of Fijian Affairs under the Fijian Affairs Act to regulate village health and sanitation.

Critical omissions from the Fijian administrative structure are the positions of the Buli, the Fijian magistrate (Turaga ni Lewa I Taukei) and the Fijian police (Ovisa ni Yasana). Prior to independence, these officers were responsible, among other things, for ensuring that health by-laws were adhered to by the villages (Namakadre, personal communication).

Outside the boundaries of the village, the mandate to oversee and exercise general powers of supervision of public health activities (i.e city and town dwellers) is through the Central Board of Health (CBH). This body is appointed by the Ministry of Health under section 4 of the Public Health Act, Cap 111, 1978 (NCHP, 1998, p50).

The CBH administers public health matters in all Rural Local Authorities. The health inspectors are members of such local authorities and play significant roles in the control of environmental health to the regulations stipulated under the Public Health Act, Pure Food Act and other Acts that ensure safe, clean and healthy environments.

The Environmental Health services staff provides advisory and regulatory roles under each Local Authority. The activities include water quality control and monitoring, pollution control, vector control, food quality control, village health and sanitation, school health and sanitation, environmental health impact assessment, building development control, disaster management and the making of amendment to public health regulations (NCHP, 1998).

There are community-based boards called the Board of Visitors and Rural Local Authorities. The Minister of Health appoints the members of these Boards through the recommendation of the subdivision medical officer. Their role is to oversee public health conditions and health centers (Robert, 1997). Medical officers act as secretaries to the Board of Visitors, whereas the health inspector acts as the secretary to the Rural Local Authority.

Methodology

Type of Study

This was a descriptive case study – ethnographic, retrospective and experiential. As a form of research, this case study was defined by interest in the case, not by the method of inquiry used (Stake, 1994).

The emphasis in this study was drawn to the epistemological question of what can be learned from this single case. The case researcher, while studying the case, concentrates on trying to understand its complexities (Stake, 1994).

However, the case researcher then connects ordinary and natural practice in the case to abstract and concerns of diverse academic disciplines. To this end, this case study was primarily intrinsic and secondarily instrumental (Stake, 1994).

Tavuki Bay – The Object of Study

There are 14 indigenous provinces in Fiji, one of which was Kadavu. Kadavu province comprises of 4 traditional districts (called tikinas), namely Tavuki, Naceva, Nakasaleka and Nabukelevu. Tavuki district is further divided into 3 smaller districts for administrative reasons. These are Tavuki, Sanima and Ravitaki. Tavuki district consists of 12 villages, 7 of which are located in Tavuki Bay. The setting of Tavuki Bay is the object of this study.

The Case Researcher

The case researcher was a qualified medical practitioner. However, his interests were in the preventative and promotive, rather than the curative end of the health spectrum.

He had a particular interest in community health, specifically in devising systems of operation that targets increasing a community's own capacity to primary health development. The researchers operating tools were health promotion, primary health care and community developments.

The researcher was a Manager for PHC implementation at the indigenous community level. His management role was two fold – to manage the PHC team and the implementation of PHC services to the community.

Data Collection

The specific objectives of the project were:-

1. To describe what a PHC practitioner should know about practicing in Fijian villages
2. To determine what practice is acceptable in Fijian villages
3. To describe how advice was translated into action in Fijian villages
4. To determine where advice should be given
5. To determine which existing PHC personnel was best suited for practice in Fijian villages
6. To determine who were the stakeholders that should be advised.

Participant Observation

Participant observation is the “observation of a social situation by someone taking part in that social situation.” (Wadsworth, 1997, p54). As a researcher technique, it is necessary to be highly aware and very reflective about the social situation being examined.

In a case study, the researcher spends substantial time, on site, personally in contact with activities and operations of the case, reflecting and revising meanings of what is going on (Stakes, 1994). Naturalistic, ethnographic, phenomenological case workers seek to see what is natural in happenings, in settings, in expressions of value. What the researchers are unable to see for themselves is obtained by interviewing people who did see or by finding documents recording it. The brain is ostensibly observational, but more basically reflective (Stakes, 1994). Although every observer participates out of necessity, one can choose to be more active pursuing the meanings of situations, by questioning other participants – for example, by offering interpretations, testing ideas out, challenging or playing devil's advocate, presenting hypothetical or ideal situations to check reactions and so on (Wadsworth, 1997). The important thing in both cases is to be consciously aware of what one does.

Research textbooks generally caution about the danger of loss of objectivity for the active participant who goes “native” (a phrase used by anthropologists). But the active participant may build ways of keeping his or her mental distance in order to sit back and reflectively think about the situation (Wadsworth 1997). This means that the researcher needs the “space” – to get away from the immediate, taken for granted situation and think. “What is going on here?”, “What are they doing here?”, “Why are we doing this?”, “What were the conditions for them continuing to act like that?”, or “What made us change, then?”, (Wadsworth 1997).

The real issue in participant observation is not the amount of participant versus the observation, but the extent to which the person can question the grounds for the action being carried out. That is, the extent to which the person can reflect, in one's mind, or one's own action – and on those of others in the social situation (Wadsworth, 1997).

Participant Observation in TBC

The researcher commenced participant observation in TBC when he presented his credentials to the Tavuki District Council in the traditional Fijian manner. This is called the ‘I sevusevu’ and involves the presentation of “kava” (a root of the plant *Piper Methysticum* Forster).

The researcher in this presentation introduced himself and his role in TBC. The head chief (the Tui Tavuki) of TBC received the presentation and gave his blessing. A “kava ceremony” followed, and the 7 chiefs of TBC drank kava in descending order of chiefly status. The researcher was then given an opportunity to enlighten the District Council further as to how he intends to serve in TBC, and he introduced them to new PHC. The researcher then sought the council’s approval that, while being an advisor to the council, he be allowed to observe TBC so as to find the best way to implement new PHC in TBC.

The request was traditionally approved. The “I-sevusevu” and the kava ceremony, which occupies an important position in Fijian traditional life and customary exchange system, was then performed by the researcher in all the 7 village councils in TBC. While the Tavuki District Council met every month, the village councils met every Monday mornings each week. Therefore, it took the researcher at least 8 weeks to complete his formal traditional entry into TBC.

While participating as a health advisor to the District and 7 village councils, the researcher spent the first 12 months observing in the monthly council and weekly village council meetings. The researcher noted down what he saw and heard in the form of daily diaries and sketches. Notes and sketches included those who were at the meeting, who did they represent, how were they seated, who said what, who said none, who drank the kava first, second, etc what issues discussed, how they discussed, what were the resolutions. The researcher repeatedly did this at each meeting and looked through them and reflected on them upon returning to Vunisea Hospital. Repeatedly being engaged in these meetings enabled the researcher to see a pattern of structure and operations of these 2 forums. In all, the researcher attended, within the time frame, 12 District meetings, in each of the 7 villages.

The researcher also observed and noted social interactions as he mingled with villages – in weddings, rallies, condolence gatherings as well as in church, youths, women’s gatherings, even when enjoying a drink around a “kava” bowl. Discussions with the villagers were in the form of “talanoa” (story telling), as the researcher aimed at pursuing a better understanding about processes or contexts in TBC. The researcher’s observations were supplemented with the acquisition of documents and conducting in-depth

unstructured interviews with council members. Documents related to TBC tradition (chiefly status, TBC representatives, minutes of meetings, development priorities etc) were acquired from the Provincial Office, which administrates TBC affairs. Documents related to government funded projects for TBC were acquired from the District Office and those related to TBC health services were acquired from Vunisea Health Centre.

The researcher conducted in depth unstructured interviews with the council members when opportunities arose. Patton (1990) describes these interviews as accessing the perspectives of the interviewees (in this case councilors), to find out from them those things the researcher could not directly observe – for example, feelings, thoughts, intentions, behavior taking place at a particular point in time, how people have organized the world and meanings they attach to what goes on in the world.

Data Analysis

Observations, discussions and document perusal summaries were recorded as narrative. Analysis was undertaken by repeatedly engaging with the narrative searching for themes and insights that would throw light on the community and the issues being addressed.

FINDINGS

I. Context

The context where the PHC practitioners work was described first as it had a marked impact on the manner they went about their work.

Kadavu Island is the fourth largest island in Fiji, located 80 kilometers (km) to the south of Suva on the main island of Viti Levu (Roberts, 1997. (Appendix 1)

Kadavu Island is about 60km long and varying in breadth from 0.8km to 13km. At the Tavuki isthmus, the island is almost divided into 2 separate islands; and at the Daku isthmus, it is only 1.2km broad. The Vunisea government station, hospital and airport are located at the Tavuki isthmus.

Kadavu is of volcanic origin and has some high mountains. The land forms a high central ridge, from which descend on all sides slopes, covered with pasturage, arable areas, light woods and tropical vegetation (Cyclopedia of Fiji, 1988). Kadavu is noted for its valuable timbers and abundant supplies of food on land and at sea.

All the lower parts of the island are well watered and white sandy beaches skirt its many small bays. Along these bays, one would locate the 77 villages of Kadavu. One such bay is Tavuki Bay, the object of this case study, lying adjacent to the Vunisea government station.

The Tavuki Bay Community (TBC)

TBC is a 10 to 15 minute sea drive from Vunisea government station on the 120 horse powered medical boat called the “Wallaby”.

The first village encountered is Solodamu village. Next to Solodamu, hidden among the mangroves are the villages of Natumua and Waisomo. In the middle of the bay, are the villages of Nagonedau and Tavuki, a church separating them. Behind these villages is Baidamudamu. Next along the bay lies the Tavuki District School and Nukunuku village is the most distal of the 7 villages that make up TBC.

The annual subdivision report (1998) documented the population as 608 with a school roll of 162. The population distribution is shown in Table 2.

Table 2: Population of TBC villages and school, 1998

TBC VILLAGES	POPULATION
Tavuki	94
Nagonedau	42
Baidamudamu	106
Nukunuku	75
Waisomo	42
Natumua	143
Solodamu	106
Total	608

Source: Annual Report – Kadavu Subdivision, 1998

The population size of each village does not necessary mean village size. For example, Tavuki village, the largest of the 7 villages have a population that is less than 3 other villages – due to out migration.

The TBC – Structural Context

Tradition

Tavuki village is the chiefly village of TBC, and is the base for traditional, church and government activities in the TBC.

The chief (Tui Tavuki) is always addressed first and drinks the first bowl of kava (yaqona) in all TBC traditional functions. The second bowl of kava goes to the chief of Nagonedau village (Tudau).

“Vakaturagaki Nacolasena Turaga Bale na Tui Tavuki, ki Nukunawa, na Turaga Bale na Tudau.....”

There exists 3 traditional households in Tavuki village, where the other 6 villages in TBC show traditional allegiance (Table 3).

Table 3: Tavuki village – the 3 households and their traditional allies

Tavuki Households	Traditional Allies
Naocovonu	Nagonedau Baidamudamu
Vunikaawa	Solodamu Waisomo Nukunuku
Nadurusolo	Natumua

Source: Chairman, Tavuki Health Committee, 1998

The chief of Tavuki is from the chiefly household of Naocovonu. A traditional household means an extended family household. For example, Naocovonu has about 7 houses. These households provide accommodation to their allies when TBC functions are held in Tavuki. (Appendix 3)

The Church

Whilst there are different Christian denominations, the Methodist church is the majority in Kadavu with associated men, women, youth and children's groups (Wakerman, 2000). The superintendent of the Methodist church in Kadavu resides in Tavuki village. He is automatically included in the chiefly household of Naocovonu.

In a similar fashion, the church elders in all the villages of TBC are also included to the chiefly households of each village. For example, the church elder of Natumua village belongs to the chiefly household of Natumua and correspondingly to the Nadurusolo household of Tavuki when attending church functions in Tavuki.

Structurally the church is blended to the existing traditional structures.

The Government

Two distinct structures exist in TBC:-

1. The Ministry of Fijian Affairs through the Kadavu Provincial Council is situated in Tavuki Village. Its head is called the RokoTui Kadavu. Except on one occasion the RokoTui Kadavu has always been selected from the chiefly household of Naocovonu.
2. The Ministry of Regional Development through its district office operates from Vunisea Government station. Its head is the District Officer – Kadavu. He is also the head of government team in Kadavu, which includes the Ministries of Health, Education, Agriculture, Fisheries and Defence (Police)

The TBC – Functional Context

The Tavuki District Council is at the core of TBC local governance (Roberts, 1997). The chief of Tavuki is its chairman and includes the chief and the village headman from each of the 7 villages in Tavuki Bay. An elected women and youth representative are also included in the council. The council meets quarterly to discuss issues of common interest (for example, education, health, infrastructure, fundraising, level, etc) and to conduct public administration (Roberts, 1997). The administrative support is provided by the Provincial office.

The council elects 2 representatives to the Provincial council. They are responsible for raising Tavuki and Kadavu issues discussed in the council. They are also responsible for communicating provincial resolutions to the Tavuki council. In a similar fashion but in the opposite direction, each village chief and headman is responsible to their respective village council.

For example, some of the resolutions of the Tavuki District council are as follows (Chairman, Tavuki Health Committee, 1998):-

- 1) The first week of each month is to be set aside for village as well as Tavuki District School programmes. The second and third weeks are to be set aside for agriculture. The fourth week is left to individual family commitments.
- 2) The annual yam competition is to be held in June during the harvesting season

- 3) Natumua and Tavuki villages are to be the centres of maternal and child health clinics each month.

The Church

The church calendar runs from March to March each year. Meetings of the TBC church are also held quarterly but they do not coincide with the Tavuki District Council meetings.

However, obligations to the church essentially follow the traditional structures. For example, if the church decides to delegate duties concerning catering for the annual church in Tavuki, the delegations are divided into traditional households.

The Government

The Provincial office is responsible for the administration of the Tavuki District Council. It is represented at the villages by the village headmen, who are also the village entry point of all government activities.

Village development projects approved by the district council are forwarded to the Provincial office, then to the district office in Vunisea for partial funding. The provincial office and the village headmen work between Vunisea government station and the TBC. The government calendar runs from January to December.

II. Key Themes

The Interviewees

The interviewees were members of the Tavuki District Council and they were:-

- i. “RokoTui Kadavu” – a Tavuki chief, a chief administrator of the Provincial Office
- ii. Chairman, Vunisea Hospital Board of Visitors- representatives of Tavuki village, a former “RokoTui Kadavu”, and District Officer Kadavu.
- iii. Chairman, Kadavu Rural Local Authority – a chief of Nukunuku village
- iv. Chairman, of Tavuki Health Committee – traditionally selected.
- v. Tavuki village headmen – the longest serving headman (20 years) in TBC
- vi. Tavuki village health worker – the longest serving village health worker in TBC
- vii. Church minister in TBC – a member of the council

Their PHC role

The interviewees, as council members, are primarily recipients of PHC in TBC. More importantly, they are selected by their villages and councils to be TBC's representatives for health and consequently, will be representatives for new PHC.

The purpose of the interviews was to give the interviewees the opportunity to explain in their own words:-

- a) Their lived experience of working as a health representative for TBC and
- b) How they would respond to requirements and challenges of their positions and roles in terms of new PHC.

As their stories unfolded, it became clear that while three (3) systems operate in TBC (government, church and the chiefly system), the people of TBC lived a predominantly traditional way of life based on the chiefly system. They perceive success in new PHC in TBC as one that is traditionally oriented.

Their Perception

We live a traditional way of life in TBC and this is how we work. Tavuki, our chiefly village, has 3 traditional households – Naocovonu, Vunikarawa and Nadurusolo. All the 7 villages in TBC are linked to these 3 households – 2 villages to the first, 3 villages to the second and 1 village to the third household respectively. Traditional, church and government obligations have been carried out in TBC using this system. Once blessed by the district council, the chiefs carry the obligation down to their villages, who respond to the obligation communally, the response then moves up again the channel to the district council. We have lived with this system for generations and it has become second to nature.....we just know what to do when our council commands us to do something.....it would be really good if you just fit in the new PHC to the traditional system.

Acceptable Practice in TBC

.....the government and church can develop TBC in whatever way they wish, but you will find that development which does not have the council's approval will have resistance from the villages....our people do what the council approves because the chiefs are there and we respect our chiefs.....

acceptable practice in TBC is one that respects our chiefs and its system...that means if you want to do new PHC in TBC, you should first get the approval of the district council.

How is advice translated into action in TBC?

....look we are traditionally, communally oriented. Once the district council approves, the chiefs inform their village councils, and the people respond communally....so community action for new PHC should not be a problem. There is a well known saying in Tavuki that goes like this...."first do what the chiefs demand then find time for your family!". This means community work is done first before family work

Where advice should be given?

....first Tavuki District Council because all the 7 chiefs are there....Then the village councils, then whenever appropriate. The problem in this area is not the forum but the chiefs. When you advice, we understand because we continually talk on health issues. However, the chiefs who is the main person who will endorse or reject what comes into TBC should be seriously considered if you want to train TBC to improve and control its health. Also, you should know that the chiefs in the district council make important decisions not only on health, but education, agriculture, budget etc, so that if they have knowledge on health through your training, it will be easy for them to make positive decisions when you advice the council on new PHC issues. Our problem has been the time taken to convince or engage the support of our chiefs just because they are not trained with us.

When advice should be given?

....the council already has a timetable that we follow. There is a week for health, a week to plant and go to sea and a week to develop our individual families. We also have special days like yam competition etc, and of course, opportunities arise in church and government organized functions which we attend. These existing opportunities can be utilized for the new PHC and you need not create separate timetables, as we are already busy....it's just one person being cut into 3 pieces that is, the one person has to do traditional, church and government obligations. If you try and create system, it will be a bit too much for us and the system created will disappear when you leave TBC.

TBC, at the time of this study lived a predominant traditional way of life. This existing traditional system may be clearly understood when described as an open living system.

III. The TBC as an Open Living System

TBC may be described as an open living system. The general systems theory is applied; whose key properties are openness, wholeness, interdependence, hierarchy, self-regulation, dynamic activity and goal directedness (Archer et al, 1984).

TBC is torn daily between traditional, church and government obligations. However, if all 3 obligations were to be attended to simultaneously, most people are seen to attend to the traditional obligation. The traditional system is the predominant system in TBC.

Openness

TBC traditional system is surrounded by 3 other systems – ecosystems (land and sea), religion (Christianity) and government (Westminster).

The people of TBC daily interact with the above systems, which are its environment. For example, TBC basically survives on what they get from the land and the sea, so that anything that affects them, such as indiscriminate fishing or bush fires also affect their survival. TBC's interaction with the above 3 systems determines its degree of openness, that is, TBC tradition affects and is affected by nature, the church and the government.

All activities to be implemented in TBC must seek the approval of the Tavuki District Council. Any program implemented without the approval of the council usually encounters community resistance. Similarly, the church and the government implement programs that are approved by the district council. This traditional forum thus maintains integrity in TBC and acts as a filter to monitor the flow of resources in and out of TBC. For example, the Ministry of Health wished to conduct a village health workers (VHW) and village environmental workers (VEWT) training in TBC.

The ministry presented the training proposals to the council (input). The council deliberated on the proposals (throughout) and approved them (output). With the council's approval, the training team was then able to plan the training in detail, access the 7 villages of TBC and also the appropriate government

and non government agencies (agriculture, fisheries, environment, public works, regional development, women's group, youth, etc). This may be regarded as negentropic, as the district council's approval enabled the health training team to operate towards greater complexity and order – upwards towards our supervisors in the MOH, downwards to the villages and laterally to other government and non government organisations.

Openness may also be illustrated in the village context. For example, Natumua village embarked on a flush toilet project. The village project proposal was presented to the district council and approved. Once approved, the village headman liaised with the provincial, district and environmental health offices. The provincial office represents the village, the district office handles the funding issues and the environmental health office advises the village on health impact and structural design issues.

TBC, as an open system, continuously exchanges resources with the ecosystem, church and government through Tavuki District Council, which is TBC's line of demarcation separating tradition from its environment.

Wholeness

Wholeness of a system must be defined as a synthesis rather than as a summation of its parts and that the process is synergistic rather than additive (Archer et al, 1984 p7). The whole is therefore more than and different from the sum of its parts.

TBC as a whole refers to an understanding of how the 7 villages of TBC are dynamically interrelated and organized – village-to-village, village to TBC and TBC to village. It also refers to health service provision (for example, VEW training), that is, the approach undertaken to maximize total TBC health and wholeness. This has implication on how health provides interact and collaborate with TBC.

The dynamics of TBC interrelations, organization and interconnectedness are based on tradition as depicted on Table 3. The wholeness of TBC refers to how TBC functions as a whole rather than how each village in TBC functions. That is it how the 7 villages in TBC work as a whole that gives TBC its unique characteristics.

Roberts (1997) developed a training model called Kadavu Health Promotion Model (KHPM). It is an example of a health promotion framework (Ottawa Charter) reoriented towards the existing Fijian traditional system (chiefly system) using adult learning methods (experiential learning) and appropriate learning theories; diffusion of innovation (Rogers, 1995), and Popular Education (Green and Kreuter, 1991) theories.

For the first time in the history of Fijian training, the VEW training brought together the 7 chiefs and headmen of TBC (essential the Tavuki District Council) and the VHW's for 3 weeks training on village environmental health. Roberts (1997) reported that the training benefits were immediately seen in terms of formation of village and TBC policies, discussion of methods of strengthening community action and authority to implement agreed strategies. Health, which was not a development priority in TBC for more than a decade became the second highest priority after education (Roberts, 1997). Furthermore, TBC, learning from the successful Natumua flush toilet projects has made it a setting project for year 2000 (Chairman, Tavuki Health Committee, personal communication). Therefore the approach towards maximizing total health and wholeness in TBC was developed from a clear understanding of TBC's traditional network.

Interdependence

The 7 villages of TBC are interdependently related. A change made by the Tavuki District Council ripples through the 3 traditional households (Table 3) and down to all the 7 villages. There is a consequent change in the whole system, so that TBC behaves as a whole single setting and not a summation of each of the 7 villages. The nature of their interdependence is also transitory and creates a potential for change in TBC. That is, the interdependence of the 7 villages are not locked into permanent arrangements, that change in these arrangements is impossible. For example, interdependence may transit from traditional, to religious or closer blood ties through marriage.

Archer et al (1984) documents 3 types of organizational shifts and formation of new alignments – progressive systematization, progressive, segregation and centralization.

The traditionally selected Tavuki Health Committee (THC) is an example of progressive systemization. THC members include all the village headmen, all the VHW and about 2 nominees of the council. This committee plans, coordinates and reports all health developments in TBC. In the process, existing traditional interdependence, especially towards TBC health, is strengthened. New relationships are established among areas that were previously unrelated. For example, there is a stronger network between THC and maternal and child health programme of the Ministry of Health in Vunisea. School health programmes, immunization, breastfeeding, growth monitoring and nutrition programs for TBC are now well coordinated in terms of village schedules and the addressing of issues such as care of pregnant women, recognition of women's contribution to health and problems pertaining to maternal and child health specific to TBC. The end result is an increase in the complexity of the maternal and child health network in TBC towards greater unity and coherence of the whole of TBC's traditional system.

The opposite of progressive systematization is progressive segregation. Roberts (1997) has documented that the introduction of western values, centered on improving the lot of an individual, have partly broken down the strong tradition of communal action existing in Fijian villages, and the system that mobilize it. The third type of organizational adjustment is centralization. The Tavuki District Council plays the key role in the functioning of THC. Thus, the training of village chiefs and headmen who are members of the council has helped in the process of centralization of health in TBC. In fact, health is now the second highest priority in TBC (Roberts, 1997).

Hierarchical Organization

The 7 villages of TBC, as an open living system, are interrelated in an organized fashion and do not exist in random association with each other. Traditionally, the core activity is organized at the Tavuki district council level. Above the district council is the Kadavu Provincial Council (suprasystem), and below it are 7 village councils (subsystem).

The MOH's entry point to TBC is the Provincial Office through an Assistant "Roko". The entry point into the village is through the village headmen.

Our entry point into TBC health development is through the THC. All health programs in TBC must go through the provincial office into the district council, who blesses them and allows us to access the other two entry points. In a similar fashion, village health proposals go through the village council, up to district council, then through the THC and village headmen to the Ministry of Health.

Archer (1984) documents that influences and fluctuations at one level is felt at an immediate higher level and lower level as well as distally related fields. This effect is applied to health competitions in TBC (for example “clean village competition”), where careful consideration of the 7 villages is observed to ensure that the 3 traditional households of TBC are represented. The equitable representation of the 3 traditional households in the competition influences the whole system.

Understanding the hierarchical organization of TBC also has important implications for planning and evaluating health changes in TBC. It has helped us, health providers, to look at possible ways to bring about changes at various levels in the hierarchy and to assess and evaluate their impact at different hierarchical levels (family, village, district, etc).

Self Regulation

This property refers to the ability to TBC to continually guide its own health activity to ensure that TBC attains its purpose or goals – for example “Healthy TBC”. The Tavuki Health Committee, chosen by the district council is specifically responsible for TBC health development.

The THC meets in one of the 7 villages on the first week of every month, except March, June and December. The Tavuki District Health Team would act as advisors in these meetings. A typical program would include village inspection, house to house visit, presentation of findings to the whole village, discussion of village findings, a village health update by the area medical officer, and a question and answer session. This would be followed by a meeting of the THC to discuss general TBC health issues. The district health team acts as advisors and also facilitators to these meetings, so we are aware of health concerns in TBC. For example, in one such meeting at Natumua village, the village sought help concerning the clearance of an area with stagnant water – a potential mosquito breeding ground.

The district health team provided a supportive letter for Natumua village council and THC to the Provincial Office. The provincial office then proceeded to the district office, who then advised the Public Works Department. The advice and actual facilitation of the process enhanced the speed in which the health problem was rectified. On another occasion, on inspecting flush toilets in Natumua village, the THC were impressed and presented a proposal to the district council to make it a TBC project. The above are examples of self regulation secondary to positive feedback.

Furthermore, the THC had presented a proposal for financial health. The proposal is for all male youths of TBC to plant 15 yaqona plants per week (about 700 per year). The THC projected that considering the current trend, each yaqona plant harvested in three years time would cost \$50 each, or at least \$3000 per month. As such, TBC families, through this youth project will have a regular source of income to cater for personal, family, church, education and other obligations. This is an example of feedforward.

The THC has also reoriented operations to optimize health development (Chairman, THC, personal communication). THC has found that the 7 village headmen are becoming too busy and have currently, very little time for their families. The THC has thus appointed replacements from the villages’ chiefly families to be village health chairpersons. This is an example of TBC self regulation in response to a negative feedback, in this case, from the village headmen.

Another area that is being developed by THC to optimize health developments is making use of opportunities to relay health messages. These opportunities arise in women, youth, sports, church and other functions in TBC.

Dynamic Activity

The THC is active in progressively adjusting health programs in TBC towards total health. These self-directed changes are targeted at transforming TBC to a healthy setting (morphogenesis) and maintaining that status (morphostasis).

Goal Directedness

THC aims to make TBC a healthy setting. With stakeholders trained.

THC works through the existing traditional, church and government opportunities to achieve that goal. In essence, healthy TBC is targeted from numerous starting points (equifinality).

IMPACT ON THE PRACTITIONER

The new PHC, and the understanding of TBC as an open living system, has an impact on the PHC Practitioner.

This impact may be described in terms of the 5 main areas of action for HP as documented in the Ottawa Charter (WHO, 1986). However, a brief description of PHC practice in TBC prior to the new PHC is presented to put the impact in perspective.

PHC practice in TBC prior to the new PHC

A medical officer and district nurse, based at Vunisea Health Centre, implement PHC services in TBC. The PHC components are nutrition, water and sanitation, care of the elderly, community rehabilitation, maternal and child health, health education, family planning, control of communicable diseases, treatment of common illnesses, and provision of essential drugs. Most services are based at Vunisea Health Centre, and curative in nature.

There are special programs available, for example, school health, oral health and environmental health. These programs are planned, coordinated and managed separately, that is, by the school health sister, dental therapist and health inspector respectively. The role of the practitioners in TBC to these special programs is to inform the TBC council and its villages on the schedules of these special visit. Reports are compiled monthly, the PHC team reporting on the provision of PHC services, while the special program managers report separately.

Training in TBC is in the form of VHW training and health education. Health education is done when necessary, mainly due on a one to one, or high risk group bases. The training of VHW is a 6 weeks training program at Vunisea Health Centre. There is no training of village headmen or village chiefs. Community participation in PHC is best described as passive and dependent, in the form of conforming to PHC schedules and ensuring their availability during these visits.

Reorientation of Health Services

Health services based in Vunisea Hospital is now based in TBC and shifts from an individual oriented to a communal oriented service.

The reorientation of PHC services in TBC is based on 2 things:-

1. The new PHC
2. The socio-cultural practice and health beliefs in TBC

PHC shifts from the provision of essential health care to the provision of training that specifically targets enabling TBC to improve and control its own health. In other words, PHC is reoriented to HP.

Similarly, PHC practice in TBC is shifted from one that is based in Vunisea Health Centre to one that is based in Tavuki Bay. In the process, the area medical officer and district nurse become the main players in PHC program planning, organization and implementation. The special program managers in Vunisea then fit themselves into the program set by the medical officer and district nurse.

The approach to PHC service implementation shifts from a vertical to a horizontal one. The horizontal approach integrates all PH services available for TBC which are PHC, oral health, nutrition, environmental health, physiotherapy, school health, pharmacy and laboratory services. This integrated approach is then blended into TBC based on an understanding of its existing socio-cultural setup and practice, and also its health beliefs.

These may be described as follows:-

- TBC functions mainly on the basis of its chiefly system. Therefore, PHC is blended into the chiefly system. For example, the Kava ceremony, integral to the chiefly system, becomes an integral part of the new PHC services to the TBC i.e the kava ceremony is performed every time we visit the villages in TBC.
- TBC is communally oriented therefore the services also become communally oriented. For example, the Tavuki District Council sets aside the first week of each month to be TBC Health Week. Thus, in collaboration with the Tavuki Health Committee, the new PHC team delivers its programs for TBC on the first week of each month.

Furthermore, while WHO celebrates World Food Day in October, the new PHC team in TBC appropriates it to the second week of June to coincide with the traditional harvesting season and the annual yam competition. On this occasion, an integrated program of school health (focusing on school nutrition) oral health (focusing on food and teeth), nutrition (focusing on weaning, nutrition for infants, pregnant mothers and the elderly) and curative services (immunization, dental checks, follow up of known diabetes and hypertension, maternal health and child health) are delivered simultaneously.

- Now that the new PHC program is communally oriented, accessibility to Tavuki Bay becomes an important issue. TBC is safely accessible by sea. In fact, most people in TBC use the sea for travelling. Therefore, the new PHC team organize its program depending on the tide rather than time.
- Death and illness in Fijians, are still commonly considered to have a spiritual or supernatural cause. TBC is no exception, and it is not uncommon that they resort to traditional remedies as first line of therapy. It is also not surprising that the care of environment in TBC (sea, land, animals, water, proper disposal of wastes, housing etc) is not a priority. This is further aggravated by 2 factors, the removal of manpower in the Fijian administrative system (Buli) that police the village health by laws and the limited powers of Ministry of Health officials within the village boundaries. The existing chiefly system who have traditional power over people, land, sea and other resources are thus empowered with information that links health and the environment. This socio-cultural understanding of health practice and beliefs reorients training towards an environmental approach, using the existing chiefly system.

Developing Personal Skills

The new PHC impacts the practitioner in terms of human resources development (HRD). The impact is described in terms of acquisition of new skills by the practitioner and how they apply the acquired skills in training the TBC.

The development of the PHC practitioner pertains particularly to the expansion of their role from a health educator to a health promoter and the shift from Vunisea Health Centre to Tavuki Bay. The practitioner simultaneously shifts, from the comfort of Vunisea Health Centre and an education model that is one to one, disease based and didactic to a model that is one to many, community based, health based and facilitatory/advisory in nature. The practitioner learns to shift from the comfort of the health clinic to sitting cross legged and traditionally formal for hours in Tavuki Community Hall.

They learn to shift from the comfort of talking to a patient to talking with a forum consisting of 7 village chiefs, 7 village headmen and at least 14 VHW for 3 weeks – none of whom consider themselves “sick”.

They learn not to be didactic and authoritative in their approach and learn the skills of engaging a largely “submissive to authority” audience as TBC to active discussion on issues. They learn to use a language that is formal, acceptable and understood by all and learn when to be autocratic, bureaucratic or democratic. The impact of new PHC on the practitioner, a few of which are mentioned above, is enormous, in terms of approach and the acquisition of new skills.

The application of acquired skills to TBC again considers TBC's socio-cultural health practice and beliefs. Roberts (1997) developed a HRD model called the Kadavu Health Promotion (KHPM) (Figure 1). This model, based on health promotion and adult learning principles, is oriented to existing socio-cultural health practice and beliefs.

For example, the VEWT, a 3 weeks training program trains existing village health stakeholders – the chief, village headmen and the VHW. The training venue is Tavuki village and participants are billeted in their traditional homes. The training is environmental in approach with the environmental health officer being the key facilitator. The second week is practical week, where participants practice what they learn in their respective villages and the environmental health officers supervising. The learning process is relayed to the local council (village council) and the cycle of environmental health begins.

This process is then repeated and followed up every second week of each month. An understanding of TBC's socio-cultural system has thus identified the key stakeholders and also identified that the application of the Diffusion of Innovation and the Popular Education theories are best suited for training, (Rogers 1995) and Green et al (1991), to develop communal skills for environmental health.

The knowledge of existing socio-cultural bonds among villages in TBC also helps the practitioner in delivering the training effectively. For example, the prior knowledge of the existing traditional households and how they are bonded helps the practitioner in making the training lively, perhaps adding a traditional competitive edge to it. A clear and concise understanding of TBC social structure and function thus impacts the practitioner in terms of the mechanism in which TBC is effectively trained in environmental health.

Building Healthy Public Policy

There already exists, in the Fijian Affairs Act, health by-laws, derived from the Public Health Act that governs village health. While TBC headmen are well aware of these by-laws, village adherence to them has been weakened by the removal of systems that police them (particularly the removal of the Buli and the Fijian magistrate). There also exist, in the Ministry of Health, through its environmental health services, staff with the knowledge and skills to provide advisory roles in water quality control and monitoring pollution control, village health and sanitation, environmental health impact assessment, building development control, disaster management and the making of amendments to public health regulations.

The practitioner acquires the role of a change agent in the process of building health public policy in TBC. The process involves, firstly, the utilization of appropriate expertise (in this case the Assistant Roko and the Health Inspector) to enlighten TBC's stakeholders on existing by-laws and their relationships to environmental health. The practitioner then, using KHPM and an understanding of existing by-laws, facilitates TBC stakeholders to formulate policies within the existing framework.

For example, the practitioner facilitates, with the expert help of the health inspector, the formulation of village policy on water quality control and monitoring like frequency of water sampling and checking on the water source and reservoir. The TBC stakeholders are also helped in formulating policies concerning animal fencing and proper waste disposal.

The practitioner, as the change agent, also mediates and negotiate between TBC and other government agencies such as the District Office, Public Works, Ministry of Environment and National Disaster Management Council (DISMAC) when the need arises. The mediation and negotiation aims at providing TBC with expert advice and information so that they may be able to formulate precise public policy on environmental health. Furthermore, in the absence of a proper watchdog in TBC, the exposure to expert opinion strengthens the role of the traditionally selected health committee in overseeing health in TBC.

It is in the process of building healthy public policy that the practitioner acquires the skills of being a change agent, mediator, negotiator and promoter of environmental health in TBC, in a manner that is multidisciplinary, multisectoral in nature and that which fosters interdependence.

Strengthening Community Action and the Creation of Supportive Environment

The practitioner, in understanding TBC's socio-cultural structure and practice and consequently, empowering them using these existing structures and systems, actually strengthens TBC's action towards environmental health. Subsequently, there is the creation of a supportive environment in TBC where their children are nurtured in body and mind, its environment invite learning and leisure, its people work and age with dignity and where ecological balance is a source of pride.

IMPLICATIONS

The integration of HP with the existing PHC services may imply that the practitioner:-

- 1) Acquire knowledge and skills in HP

- 2) Integrates a sociological approach with the existing biomedical one
- 3) Integrate a “setting” approach with the existing individual one
- 4) Integrate networking with existing government and non-government organizations, with existing paternalistic one that is disease based, didactic and authoritative in nature.

Qualitative Research to better understand TBC

For HP to be effective, the practitioner may need to gain a better understanding of TBC – in terms of its structure, how it functions, its relationship with other systems, its health beliefs etc. This information may be acquired through a qualitative research. The practitioner may thus need to learn about qualitative research to gain better understanding of a community. The qualitative data may then be integrated with existing epidemiological data to create a stronger platform for HP in TBC.

Knowledge of HP

The practitioner may need to acquire knowledge in health promotion. The outcome of the practitioner's qualitative research may then allow him/her to apply relevant or appropriate theories, methods and strategies in HP to TBC.

For example, the Popular Education and Diffusion of Innovation theories were selected and applied as most suitable for the TBC traditional set up. Similarly a prior knowledge of the Ottawa Charter and the socioecological approach to health proved useful in the process of enabling TBC to control and improve its health.

Knowledge of Related Disciplines in HP

TBC is a communally oriented community so the practitioner may need knowledge in CD issues and others – for example, issues relating to influencing beliefs and behaviors. One may need to, especially when brought up through a biomedical model, to understand the complexities involved in the process of CD and theories of CD that may be used, for example, the general systems theory.

Development of Personal Skills

Perhaps, of critical importance to the practitioner is the need to develop personal skills in HP, beyond education and clinical skills – for example two way communication, advocacy, mediation, negotiation, active organization, motivation, interaction, conflict management, politics, marketing etc. They may also need to develop skills on when to be autocratic, bureaucratic and democratic, and how to maintain the equilibrium.

CONCLUSION

1. The “new PHC” in Fiji is the strengthening of the HP capacity of the existing PHC system. This concept of HP was adopted by the Ministry of Health in 1997, through a Healthy Islands Initiative.

2. The “new PHC” in TBC is the strengthening of the process of enabling the people of TBC to take control and improve their health.

3. The impact of the “new PHC” on the practitioner were as follows:-

- The practitioner did a qualitative case study to gain a better understanding of the people of TBC. The people live a predominantly traditional way of life.
- Based on the above finding, the practitioner reoriented his PHC service using the traditional platform.
- Reorientation of practice also involved the application of appropriate theories and models of learning.

These include the General Systems theories, Diffusion of Innovation and the Popular Education theories and the Ottawa Charter for HP was used as a guideline for change.

4. The implications for PHC practitioners were as follows:-

- The “new PHC” demands acquisition of knowledge and skills in HP and related areas such as qualitative research and CD.
- There is an inevitable and simultaneous need to develop appropriate personal skills in HP, particularly communication and negotiation skills.
- The above simultaneously demands the development of personal skills

RECOMMENDATIONS

1. Primary Health Care practitioners in Fiji should be given the opportunity to acquire knowledge and skills in Health Promotion and related disciplines like qualitative research and community development.
2. The Fiji School of Medicine and Fiji School of Nursing, being the main institutions for training of Primary Health Care practitioners, should be encouraged to incorporate the above programs into their existing Public Health Program, at the graduate and postgraduate levels.
3. The Ministry of Health Fiji should take the initiative to integrate the departments of environmental health, primary and preventative health and community nursing from headquarters level.
4. The Ministry of Health Fiji to liaise closely with the Ministry of Fijian Affairs and Ministry of Regional Development so as to promote the 'new PHC' for the rural indigenous communities.
5. The Ministry of Fijian Affairs to seriously reconsider its decision to remove the Fijian Magistrates system which was very influential in maintaining public health by-laws in Fijian villages.
6. Continued support should be given to the new National Health Promotion Council which fosters multispectral collaboration for Health

ACKNOWLEDGEMENT

I humbly wish to express my sincere gratitude to the following people and organizations, whose support and encouragement have enabled me to sail through this academic challenge.

- To my Lord Jesus Christ, my only source of life, wisdom, knowledge and understanding, for the spiritual guidance
- To my wife and four daughters, for bearing with me throughout the academic voyage
- To Drs. Mrs. J. E. Ritchie and Mr G. Roberts, whom I have declared to be my parents in health promotion.
- To all academic and administrative staff of the Centre for Public Health, School of Medical Education at the University of New South Wales, for the academic experience.

- To AUSAID, for the funding, and the opportunity to learn, both in Fiji and Australia.
- To the Ministry of Health, Fiji, for your support.
- To the people of the province of Kadavu, for the enormous wealth of experience I acquired whilst serving among you
- To all, too many to document, friends and enemies - to you all, I humbly say "Vinaka saka Vakalevu" (Thank you very much).

This project was part of the author's Thesis report towards his Master of Public Health at the University of New South Wales, Australia in 2001.

REFERENCES

- Ab Koy, J.** (1998), "Sectional Priorities", 1999 *Republic of Fiji Islands Budget Address*, pp 28-29
- Archer, S.Kelly, C., Birsch, S.,** (1984), *Implementing changes in communities*, CV Mosby, ST Louis, pp 1-15.
- Baum, F**(1995), *The New Public Health: An Australian Perspective*. Oxford Uni. Press.
- Camiletti, Y. A.** (1996), "A simplified guide to practicing community based/community development initiatives", *Canadian Journal of Public Health*, vol 87, no.4.
- Community Development in Health** (1988),: *An Overview: Health and Illness in a social context and the role of community development*, A paper prepared by the steering committee of the Community Development in Health Project, Australia – ISBN No. 0-7316-3318-0 pp 1-12.
- Chritopher. J., Murray, L., Lopez, A.D.,** (1997), "Global Mortality, disability and contribution of risk factors: Global burden of disease study", *The Lancet*, vol. 349 pp 1346-1442.
- Elwyn, G., Edwards, A., Kinnersely, P.,** (1999). "Shared decision making in primary care: the neglected second half of the consultation", *British Journal of General Practice*, vol. 49 pp 477-482.
- Glass, R.D.,** (1996), *Diagnosis: A Brief Introduction*, Oxford University Press, pp 3-14.
- Gifford, S** (1996), "Qualitative Research: the soft option?" *Health Promotion Journal of Australia*, 6(1), pp 58-61.

- Godlee, F.**, (1997), "WHO Reform and Global Health – Radical restricting is the only way ahead", Editorial, *British Medical Journal*, vol.314, no.709.
- Green, L. W., Kreuter, M. W.**, (1991), *Health Promotion Planning: An Educational and Environmental Approach* (2nd Edition), Mountain View, Mayfield Publishing Company.
- Hellberg, H.**, (1986), "The birth and growth of primary health care", *World Health*, pp 10-13.
- Ife, J.**, (1995) "Creating community alternatives – vision, analysis and practice", *Community Development*, Longman, Melbourne, pp 70-99.
- Lawson, J., Rotem, A., Bates, P.**, (1996), *From clinician to manager: an introduction to hospital and health services management*, Sydney: McGraw-Hill
- Litsios, S.**, (1994), "Sustainable development is healthy development", *World Health Forum* vol. 15, pp. 193-195
- Marnat, G., Leslie, S., Rinneker, M.**, (1996), "Tobacco control in a traditional Fijian village: Indigenous methods of smoking cessation and relapse prevention", *Journal of Social Science Medicine*, vol. 12, no.4, pp.473-477.
- McMurray, A.**, (1999), "Community health and wellness, a socioecological approach", *Faculty of Nursing and Health Sciences*, Griffith University, pp. 274-275
- Ministry of Health, Fiji** (1997) Corporate Plan 1997 – 1999, p3
- Ministry of Health, Fiji** (1997) Health Information Data Summary.
- Ministry of Health, Fiji** (1997), *National Centre for Health Promotion Corporate Plan 1997 – 1999*
- Ministry of Health, Fiji** (1998) *Healthy Islands Initiative*, Fiji p17.
- Morgan, G.**, (1997), *Images of Organization*, Sage Publications, Thousand Oaks
- Namakadre, K. B.**, Chairman, Ra Provincial Council (1967). Fijian Magistrate (1954-1962), retired in Sydney Australia.
- Natuwawa, J.**, Chairman, Tavuki Health Committee (1995-2000)
- National Center for Health Promotion, Fiji**, (1986), "Health promotion strategies to reduce risk factors for non-communicable diseases", A workshop report.
- National Center for Health Promotion, Fiji** (1998), *Recommendation for Policy to support Health Promotion in Fiji* A report to the Minister for Health, Fiji., p50.
- Noack, H.**, (1987), "Concepts of health and health promotion." In T. Abelin, Z. Brzezinski AND V. Carstairs (eds), *Measurement in Health Promotion and Protection* WHO regional Publications, European series no.2.
- Nutbeam, D., Harris, E.**, (1998), *Theory in a Nutshell: A Practitioner's Guide to commonly used theories and modes in health promotion*. Sydney: National Center for Health Promotion, Sydney University.
- Patton, M** (1990), *Qualitative Interviewing". Qualitative evaluation and research methods*, 2nd edition, Newbury Pack, pp 277-333.
- Rabuka, S** (2000), It will change the concept of Fijian administration"; *The Fiji Times*, 27/3 pp 12-13
- Ritchie, J.**, (1994), "Education for primary health care: Accomodating the new realities". *World Health Forum*, vol.5. no.1, pp 180-186.
- Ritchie, J., Rotem, A., Hine, B.**, (1998), "Healthy Islands: from concept to practice", *Pacific Health Dialogue*, vol 5. No.1, pp 180-186
- Roberts, G** (1997), "The Kadavu Health Promotion Model, Fiji", *Health Promotion International*, vol 12, no. 4, pp 283-290.
- Rogers, E., and Kincaid, D** (1980), *The miracle of Oryu Li*, *Communications Networks – towards a new paradigm for research*, New York, pp 1-26.
- Rogers, E. M.**, (1995), *Diffusion of Innovation* (4th Edition) USA: The Free Press.
- Stake, R. E.**, (1994), "Case Studies" in Denzin N.K. and Lincoln Y. S., *Handbook of Qualitative Research*, Sage Thousand Oaks CA, chp 14, pp 236 – 246.
- Tarimo, E** (1991), "Towards a Healthy District: Organizing and Managing district health systems based on Primary Health Care", *WHO, Geneva*, p5.
- United Nation Programs** for Small Island developing states, (1994), <http://www/un.org/esa/sustdev/sids>.
- Wadsworth, Y.**, (1997), *Do It Yourself Social Research*, 2nd edition, Alken Press, Sydney.
- Wakerman, J** (2000), "Aide Memoire: Kadavu Rural Health Project – Ex-post evaluation"
- Werner, D.**, (1993), "The Life and Death of primary health care: the McDonaldization of the Alma-ata, Russia", *Pacific Health Dialogue*, vol.3, no.1, pp 68-73
- Wise, M., Nutbeam, D.**, (1994), "National Health Goals and Targets – A historical perspective", *Health Promotion Journal of Australia*, vol.4, no.3, pp 9-13.
- WHO** (1978), "Primary Health Care", *International Conference Primary Health Care, Alma – at al USSR*, pp 34-37.
- WHO** (1985), "Basic Documents", 35th edition, Geneva.
- WHO** (1986), "Ottawa Charter for Health Promotion", *Proceedings of an International Conference*, WHO, Ottawa.

'JUNK FOOD' PROMOTION TO CHILDREN AND ADOLESCENTS IN FIJI.

Silvia F. Hope^{1*}, Wendy Snowdon², Lindsay B. Carey¹, Priscilla Robinson¹

Key Words: *Children, Obesity, Food Policy, Survey, Advertising content analysis*

Abstract

Objective:

To collect evidence on the exposure, awareness and effect of 'junk food' advertising and sponsorship upon children and adolescents in Fiji.

Method:

A questionnaire was developed and used with a sample 88 primary school students and 103 secondary school students in Suva, Fiji and included questions about participants' food preferences, nutritional knowledge and advert recall ability. Two free-to-air television channels were recorded for two weekdays and two weekend days from 6am-9pm, and the content analysed for advertised content. The amount of street advertisements in three defined localities was assessed. Sponsorship of events by 'junk food' products was assessed over the preceding twelve month period.

Results:

School children were able to identify multiple food products they had seen advertised. 94% reported that seeing adverts makes them want to try products. Seventy one percent had asked others to buy advertised products for them. There was evidence that food advertising contributed to incorrect nutrition beliefs. Levels of street and television advertising for 'junk foods' were high. Fourteen events sponsored by 'junk food' products were found to have taken place within one year of the investigation.

Conclusions: Children in Suva remember but misunderstand the nutritional value of advertised 'junk foods'. Their diets are altered detrimentally as a result.

Implications: There is a need for a regulatory approach to limit 'junk food' advertising in Fiji.

INTRODUCTION:

Because of a significant worldwide rise in obesity among young people, the issue of advertising and promotion of 'junk food' has generated increasing amounts of public discussion. This has led to greater debate in government, and various forms of regulation on the advertising of 'junk food' have now become one of the most frequently discussed and proposed policy measures to address obesity in young people.¹

Several international reviews have linked television food advertising to childhood overweight and obesity through its influence on purchase requests and diets.² Previous research from Australia, New Zealand and internationally has found that advertisements for 'junk foods' comprised the majority of television food advertisements. There are also many other advertising media, such as internet and radio, which now span

across international borders resulting in the levels of advertising in Australia, Asia and the US, in particular, impacting on countries like Fiji. The high levels of advertising being seen globally has led many professionals to question the effectiveness of current advertising industry regulations in Australia, New Zealand and internationally.³

The nutrition and disease transition is well-advanced in Fiji, with obesity rates rising rapidly, and obesity-related diseases now the leading causes of death. The most recent national survey found obesity rates of 10% in adult males and 26% in females.⁴ Around 60% of all deaths have been reported to be due to heart disease, heart failure, stroke and hypertension. These largely preventable diseases carry significant costs in terms of their impact on individual lives, communities and health services.⁵

1. School of Public Health and Human Biosciences, La Trobe University, Melbourne, Australia.

2. C-POND, Fiji School of Medicine, Tamavua, Suva, Fiji.

* Address for Correspondence: hope.silvia@gmail.com

The Fijian Minister for Health, Dr. Neil Sharma, has publically expressed concern about the extent of 'junk food' advertising and levels of obesity.⁶

The rise of diet-related disease has resulted from an increase in the intake of foods high in sugar, fat and salt, combined with a reduction in levels of physical activity.⁷ The dietary environment in Fiji has become highly obesogenic given the increased availability and accessibility to processed imported 'junk foods'.⁸

In recent years, food and beverage industries around the world have begun to view children and adolescents as a major market force because of their strong influence on household food purchases, their purchasing power, and as future adult consumers.⁹ Children in developing countries have been shown to be less likely than children elsewhere to have a sophisticated understanding of the modern techniques used in advertising.¹⁰

There is strong evidence to suggest that steering children away from commercial television may be effective in reducing childhood obesity.¹¹

Consumption choices of children have been found to be influenced by the advertisements they see.^{10,12} Further evidence suggests that advertising is a contributing factor in childhood obesity, as non-commercial viewing, such as watching DVDs, has been found to have no significant association with obesity.¹⁰ While obesity has many drivers, controls on marketing consistently rate as a high priority strategy for addressing childhood obesity.^{13,14}

Governments around the world are recognising the importance of regulating the promotion of 'junk food' products to children. A review of regulatory strategies on food marketing to children in 59 countries found that 20 have, or are developing, policies in the form of statutory measures, guidelines, or approved forms of self-regulation. Government support for self-regulation is frequently accompanied by the statement that if it fails, then governments will take a regulatory route instead.¹⁵ This was a guiding principle suggested by the Preventative Health Taskforce in Australia, which recommended a self regulatory approach and that the food industry be given four years to phase out advertising of energy-dense foods on television before 9pm, or face legislation.¹³ Many countries, including Australia and New Zealand have general self-regulatory codes on advertising to children; however they do not specifically refer to food marketing.

The regulations provide general guidance or set limited restrictions on scheduling, but do not restrict the nature of the promotion.¹⁵

While government-approved forms of self-regulation have been the dominant response to this issue; statutory measures are increasingly being adopted.¹⁶ The UK has banned 'Junk Food' advertising during programs 'of particular appeal' to children under the age of 16.¹⁷ France has required nutritional messages on all food advertising since 2007, and Ireland has banned the use of celebrities in children's food advertising and requires warnings on fast food and confectionary advertisements.

A number of countries have been actively discussing statutory actions, including Chile, Spain, Bosnia, Greece, Israel, Macedonia, Moldova and Serbia.¹⁶

An opportunity arose to examine the effect of food advertising to children in Suva, Fiji because of the interest of the interim Health Minister, through an organisation with interest and expertise in food and nutrition and obesity prevention (C-POND) and concern for local rates of obesity. The objective of this research was to investigate whether children and adolescents in Suva, Fiji are exposed to, aware of and affected by 'junk food' advertising and sponsorship through alteration in their food preferences or influencing their requests for purchasing of specific products, and to identify the scale of advertising and sponsorship of 'junk food' in Fiji via television, street advertising and sponsorship of events.

METHODS

All products advertised or identified were classified as either 'unhealthy' (termed 'junk food' in this report) or 'healthy' according to the Food Standard Australia and New Zealand (FSANZ) Nutrient Profiling Calculator,¹⁸ based on information on the labels of products. This system covers both food and non-alcoholic beverages. The Nutrient Profiling Calculator provides a points system to identify foods 'eligible to make health claims' in Australia and New Zealand.¹⁸ All foods and beverage products that failed to satisfy eligibility criteria were classified as 'junk food'.

Questionnaire:

A questionnaire was developed to investigate participant's television consumption habits, product recall ability and whether adverts influence their food preferences and nutritional understanding. The questionnaire was developed based on similar surveys,^{19,20,21} and refined by a number of relevant academics. The questionnaire included both multiple choice and open-ended questions.

Selection Method and Sample Size: The Fijian Minister for Education randomly selected two schools, one primary and one secondary, with similar distributions of boys and girls, and an ethnic mix of Indigenous Fijian and Indo-Fijian students, reflecting Fiji's overall demographic profile. The school principles identified appropriate classes to participate (in particular older primary school children as they were able to read and write without assistance), and distributed the questionnaires to these children (approximately 100 in each school). According to the school principles participation was almost 100%.

Data Analysis: Data from the questionnaires were entered into an EpiData data base and analysed using techniques for metric and non-parametric data. Comparisons were made in the analysis comparing results obtained from the primary and secondary school. Statistical significance was determined using a Chi Squared test. All products identified by the participants were classified as either 'junk food' or 'healthy' according to the Food Standard Australia and New Zealand (FSANZ) (2007) Nutrient Profiling Calculator.

Ethics and Privacy: Ethics clearance for this research was received from the La Trobe University Human Research Ethics Committee (FHEC10/110) and from the Fiji National Ethics Review Committee within the Fiji Ministry of Health. Written informed consent was provided from the parents/guardian of all participants prior to their completion of the questionnaire. Questionnaires were self-completed, and questionnaires did not include personally identifying information.

Review of Television Advertisements:

Method: To assess the level of 'junk food' advertising on terrestrial television in Fiji, a review was undertaken of the two free-to-air terrestrial channels: Fiji1 and Mai TV. In line with recommendations from the International Code on Marketing Food and Non-Alcoholic Beverages to Children,²² recordings were made between 6am and 9pm during two week days and two weekend days.

Data Analysis: The number and content of each advertisement was documented by the researcher. Based on information on the product labels, all advertised products were classified as either 'junk food' or 'healthy' according to the Nutrient Profiling Calculator.¹⁸ Advertisements for products that fell into the 'junk food' category referring to the product being 'healthy' or 'good for you' were identified.

Review of Street Advertisements:

Method: The number of street advertisements along Suva city's main road (1.4km) and all street advertisements within an 805m radius around the participating primary and secondary schools were assessed on a single day. This was done by driving around the streets using a GPS to ensure all roads were included. All street advertisements for food and beverages were photographed and later classified and tallied.

An 805m radius (1/2 mile) around each school and the main road were chosen based on studies assessing other health-related advertising. An 805m radius (1/2 mile) has been frequently cited as walking distance to and from school in studies of transportation, and has been commonly used to characterise environmental contributors to health behaviours, including cigarette smoking, alcohol use and exercise.^{23,24,25} The 1.4km main road was also analysed as this is an area where people often visit, therefore repeated exposure of adverts is likely to be achieved.

Data Analysis: Street advertisements were classified into four categories; Sponsored Store Signs, Posters, Bill Boards and "Sponsored Other". Details around each category are explained in Table 2.

Review of Sponsored Events:

Method: Events were searched for on-line and in advertising materials in news media for references to major events in Fiji sponsored by food or beverage companies linked to specific products occurring between August 2009 and August 2010.

Data Analysis: Data were recorded in a MS Excel spreadsheet. Sponsoring products were analysed using the nutrient profiling calculator and classified as either 'healthy' or 'junk food'.

RESULTS:

The self administered questionnaire was completed by 191 students, 88 participants (46.1%), from the primary school aged 11-13 years, and 103 students aged between 14 and 18 years (53.9%) from the secondary school. Ethnicity was not recorded; however the Ministry of Education indicated that both schools included similar numbers from the two main ethnic groups. The results are presented by topic: exposure, awareness and impact.

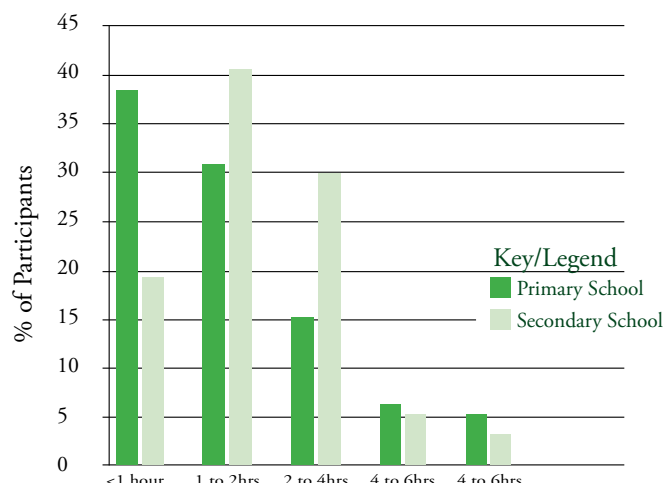
Exposure:

Participant's Exposure to Television

All students participating in the survey (n=191) reported having access to a television to watch. The majority of both primary (n=52/88: 59.1%) and secondary school participants (n=65/103: 63.1%) reported that they watched television (either paid, free-to-air or DVDs) every day of the school week (Monday to Friday). Secondary school participants were statistically more likely (p .03) to watch television on more days of the week than the primary school participants.

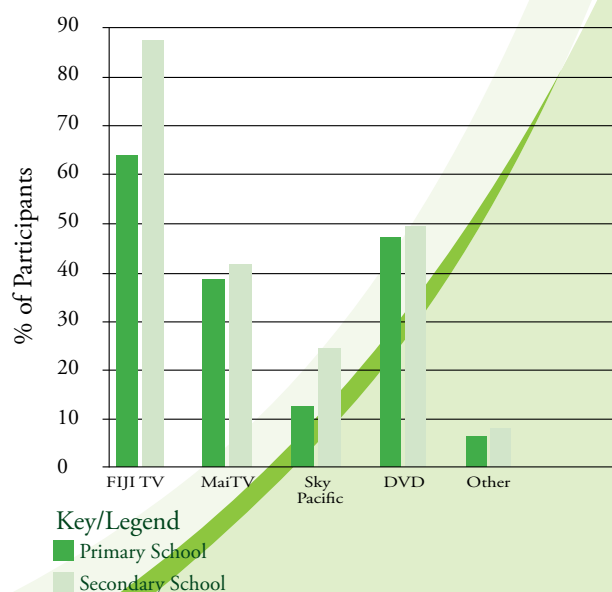
The number of hours of television participants reported watching on week days is summarised in Figure 1. On average the secondary school participants indicated that they watch television longer on weekdays than primary school participants (p .01). Primary school participants reported watching an average of 1.9 hours (95% CI 1.5, 2.3) per school day while secondary school participants reported to watch an average of 2.1 hours (95% CI 1.8, 2.4) per school day.

Figure 1: Hours of Television Watched on a School Day



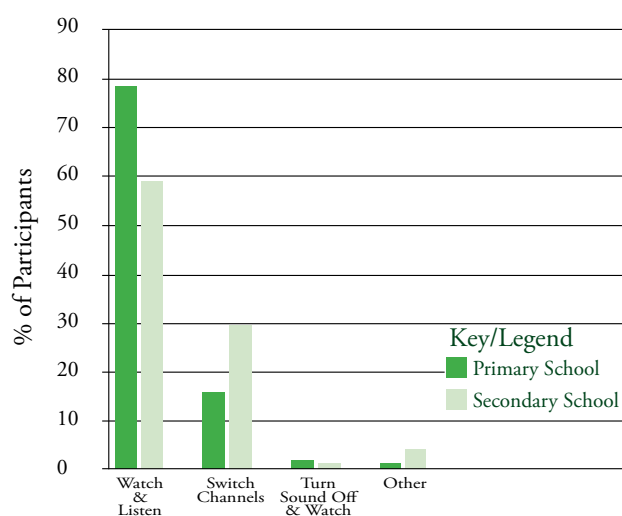
Participants also reported watching more hours of television per day during the weekend, indicating an average viewing time over both weekend days of 7.1 hours (95% CI 6.5, 7.7). Participants watched an average of 4.2 hours (95% CI 3.9, 4.5) of television on a Saturday. Less television was watched on a Sunday, with participants watching an average of 3 hours (95% CI 2.7, 3.3). There was no statistically significant difference in the time spent watching television during the weekend between primary and secondary school participants (p .56). The vast majority of participants reported watching the free-to-air channels, with the majority (n=148/191: 77.4%) reporting that they watch Fiji1 and 40% (n=78/191: 40.8%) reporting that they watch Mai TV.

Figure 2: Assessment of 'Junk Food' Street Advertisements.



Participants were also asked to indicate what they usually did during advertisement breaks, given the options summarised in Figure 3. The majority of participants reported that they pay attention to adverts by indicating that they “watch and listen”. It was found that primary school participants were more likely to pay attention to adverts (RR 1.32) than their older counterparts with 77.3% (n=68/88) of primary school participants indicating that they “watch and listen” compared with 58.8% (n=60/103) of secondary school participants.

Figure 3: What Participants do when Adverts are Shown on Television.



Television Advertisements

The results from the assessment of television advertisements are shown in Table 1. Overall 123/663 (18.5%) of advertisements on both television channels were for food and beverage items. Of these, 98 (79.7%) were for ‘junk food’ products. A number of ‘junk food’ products advertised could easily be misinterpreted as ‘healthy’ products due to misleading messages in the adverts. Examples include products, such as Powerade (promoted in association with becoming good at sport), a brand of Chicken Sausages and Corned Beef were both promoted as part of a ‘healthy’ family meal and Milo was promoted as being “nutritious”. According to the Nutrient Profiling Calculator¹⁸ none of these products could claim to be ‘healthy’.

Table 1: Profile of advertisements shown on Fiji 1 and Mai TV

Fiji 1

Time	weekday 1	weekday 2	Saturday	sunday
Total adverts	91	81	139	88
Food and beverage adverts	25	22	24	13
'Junk food' adverts	23	18	22	11

Mai TV

Time	weekday 1	weekday 2	Saturday	sunday
Total adverts	60	63	66	75
Food and beverage adverts	12	10	8	9
'Junk food' adverts	7	9	5	3

Street Advertisements

The results of the assessment of street advertising in the three targeted areas are provided in Table 2. Extensive levels of advertising for ‘junk’ foods were found in all three investigated areas. The most common form of street advertisements were posters outside shops and in shop windows. A total of 182 street advertisements for ‘junk food’ products were found in the three locations investigated.

Table 2: Assessment of ‘Junk Food’ Street Advertisements.

Street Advertisement	1.4 km of main road in Suva city	Radius of 805m around primary school	Radius of 805m around secondary school
Signs outside shops and on roadside.	12	19	17
Posters outside shops and in shop windows.	33	47	35
Billboards	5	0	3
Other: Sponsored Rubbish Bin, Road Banner, Rooftop, Bus Stop.	6	1	3
Total	56	67	59

Sponsored Events

From the web search for references to sponsored events, a total of 14 events sponsored by ‘junk food’ products were found to have taken place in the designated one year. The majority of these events targeted children, families or schools.

Awareness:

Participants were asked to name three food products and three beverage products that they had seen advertised.

The majority of students from both schools were able to name three food products and three beverage products they had seen advertised. A higher proportion of secondary school participants (92%) were able to name six products compared with only 61% of primary school participants.

Most of the products (85%) named by participants fell into the 'junk food' classification category (78% of food products and 91% of beverage products named fell into this category).

Participants were asked to name a sports event that was sponsored by a food or beverage product. The majority of participants were aware of, and could name numerous sports events sponsored by food and beverage products. Eighty eight percent of primary school participants were able to name a sports event sponsored by a food or beverage product, a significantly lower proportion than the 97% of secondary school participants ($p .01$).

Of the total sports events named by participants, 97% were linked to 'junk food' sponsorships.

Impact:

Participants were asked 'Did seeing these adverts make you want to have some of these products?' with response options 'yes', 'no' and 'sometimes'. Primary school participants (98.8%) were found to be more likely to want to try products they had seen advertised than secondary school participants (90.2%) ($p .03$).

Participants were also asked whether, after seeing advertisements had they ever asked someone to buy the advertised foods/drinks for them. They were asked to indicate 'yes' or 'no'. The majority of participants (64.8% of primary school participants and 75.5% of secondary school participants) indicated that they had asked someone to buy products for them after seeing the product advertised.

Participants were also asked to name a 'healthy' food and 'healthy' beverage they had seen advertised. A significantly higher proportion of secondary school participants were able to correctly name a healthy food product than those from the primary school ($p < .01$). Only 24% of primary school participants were able to correctly name a healthy food product, whereas 45% of secondary school participants were able to name a healthy food product. Approximately 9% of participants incorrectly identified a 'junk food' product as healthy.

For example, when participants were asked to name a healthy food product they had seen advertised, chicken sausages made up 5 of the 16 incorrect (unhealthy) responses.

Only 28.4% of primary school participants and 37.3% of secondary school participants could correctly name a healthy beverage product. Approximately half of the students at both schools incorrectly named a beverage they thought was healthy. Fifty one percent of primary school participants answered this question *incorrectly*, secondary school participants displayed similar knowledge with 48% answering this question *incorrectly*. An example of this can be seen in the advertising of Powerade, which was commonly associated with increasing sports performance; when participants were asked to name a "healthy" beverage they had seen advertised 18% named Powerade.

Discussion:

Overall, results show that children frequently watch television and had high recall of advertised food and beverage products; however most were unable to distinguish between products considered to be healthy and unhealthy, and participants requested their parents to purchase products they had seen advertised.

Television was found to be an important medium for advertising of 'junk foods'. Consistent with previous findings in urban areas in Fiji,²⁶ all participants were found to have access to a television to watch, with a large majority reporting that they watched television every day.

This finding is likely to be relevant to urban areas only, with consistent access to television probably lower in other areas of Fiji. This research also covered only the two free terrestrial channels, and did not include the two satellite television providers. These satellite stations often broadcast channels that originate in Asia and Australia along with international advertisements; in addition to local products, children are therefore exposed to advertisements from other countries.

Television viewing overall was high, with average viewing per week was 17.4 hours (95% CI 15.6, 19.2), more during the weekend than on weekdays. This is consistent with studies undertaken in New Zealand and Australia.^{27, 28}

The majority of participants in this research reported paying attention to advertisements, particularly primary school children, consistent with previous research which showed that older children pay less attention to advertisements and are more able to differentiate between advertisements and television programmes.²⁹

Almost four out of five food advertisements reviewed were for 'junk foods', showing that children are presented with significantly fewer healthy than unhealthy food and beverage products. It is therefore not surprising that the vast majority of products named by participants also fell into the 'junk food' category. However, not only are the majority of food products that children see advertised 'junk food', but some advertisements appeared to give misleading messages. Numerous products were presented as healthy choices, however according to the profiling system¹⁸ they were identified as 'junk food'. Examples can be seen in the television adverts for a local brand of chicken sausages which are promoted as being "healthy, nutritious and delicious". However this product was found to be very high in sodium (905mg per 100g) fell into the 'junk food' category, and was commonly named by children as 'healthy'.

Street advertisements were found to be abundant around Suva. It is reasonable to assume that many of the students would be walking within the investigated 805 metre radius to get to or from school, and therefore exposed frequently to the adverts. The results were comparable to an Australian study of 40 primary schools where an average of 45.8 "non-core" food advertisements were found within a 500 metre radius of each school.³⁰ Outdoor food advertisements, including billboards, signs and posters are viewed as a relatively inexpensive method of advertising with potentially very high impact. People tend to view the same street advertisements regularly; therefore repeated brand exposure is achieved.³¹

A number of high-profile events were identified that had been sponsored by 'junk food' products. During these events, the sponsoring product was displayed on numerous signs with products often distributed for promotional purposes designed to encourage children and adolescents to try unhealthy foods. Sponsorship of sports events can portray contradictory messages about what constitutes a healthy lifestyle.

Children and adolescents come to associate the sponsoring product with sports and physical activity and come to believe it is healthy¹⁴ and many were unaware of the junk food status of many products commonly seen at sponsored events.

The responses from participants regarding the effect that advertising had on their purchasing preferences was concerning, with almost all indicated that seeing advertisements has made them want to try the advertised product. Advertising seemed to be more effective on the younger participants; this is consistent with previous research that finds younger children to be more vulnerable to advertisements.³²

The role of so-called 'pester power' is of concern, as almost three quarters of participants had also attempted to influence others to buy advertised products for them. Evidence suggests that older children feel that they have more power to influence other people's purchases and are therefore more likely to attempt this.³³

Participant's exposure to 'junk food' advertising and promotion is high. The prevalence and effect of 'junk food' advertising in Suva is consistent with studies undertaken in Australia, New Zealand and internationally.^{26,27,28,29} This indicates that there is a wide spread need to tighten legislation on advertising 'junk food' products to children, particularly given cross-border advertising and media.

While this research provides valuable information about the problem of 'junk food' advertising and sponsorship in Fiji, the findings are of relevance in the region, and the approach could easily be replicated in other Pacific Island countries. The Fijian government now has legislation for the restriction of junk food advertising in draft form. Cabinet endorsed the drafting of the legislation for the Marketing Code for Controls of Unhealthy Foods and Non-Alcoholic Beverages Advertising to Children on 15 August 2011. The Fiji National Food and Nutrition Centre, in collaboration with C-POND, is working on a Nutrient Profiling system that the Ministry of Health will use to classify foods as 'healthy' or 'unhealthy'. Once drafted, the Marketing Code will be taken back to Cabinet for its approval and are likely to be a stimulus for action elsewhere in the region.³⁴

It should be noted that this research has several limitations that future research can address.

As data were collected from participants through a self administered questionnaire, participants were required to be able to understand the questions without assistance which meant the younger primary level children were excluded. A larger sample size and appropriate method suitable for younger pupils would be beneficial for future research. Additionally, the assessment of advertisements was limited in that data were not collected from all sources of advertising and promotion. Radio advertisements, competitions and the internet were not included.

Different factors impact the diets of children and adolescents in rural communities and other urban areas. In the future, a comparative study could be undertaken assessing the nutritional knowledge and product recall ability between children in Fiji with access to television plus other forms of media and those who do not have such access.

CONCLUSIONS AND RECOMMENDATIONS:

This research provides strong evidence that children and adolescents in Fiji are exposed to and affected by 'junk food' advertising. It was found that 'junk food' adverts and sponsorships were noticed by participants, influencing their food preference and perceptions of healthy and unhealthy foods. Further, these results indicate that the situation around 'junk food' advertisements and sponsorship in Fiji is similar to that found in many other countries globally, allowing conclusions from this research to be relevant internationally. It is surprising to note that levels of advertising in Fiji were similar to more developed and affluent neighbouring countries, demonstrating the reach of media globally.

The study strongly supports the need for the Fijian Government to implement legislation to protect children and adolescents from 'junk food' advertising. While the exposure of children to advertising, outside Suva may be considerably less, legislation is best implemented nationally. It is recommended that this legislation be based on the 'International Code on Marketing Food and Non-Alcoholic Beverages to Children',²² for which the WHO has developed a set of recommendations.³⁵

As a result of legislation changes, it is expected that in the long-term, manufacturers in both Fiji and internationally will seek to develop and market healthier food products.

Monitoring of the impacts of the legislation would be important, and ongoing research into factors affecting children's diets would also be valuable.

ACKNOWLEDGEMENTS:

The authors of this research gratefully acknowledge the Fiji Ministry of Education for selecting the participating schools, the principals, teachers and students of the two participating schools for their participation and cooperation, Jimaima Schultz of the Fiji National Food and Nutrition Centre for her assistance, and Susana Lolohea and Astika Prasad for their assistance in this research.

Conflict of Interest and Funding Disclosure:

This research received no specific grant from any funding agency in the public, commercial or not-for profit sectors. The project was self-funded by the first Author. Administrative support was provided by C-POND.

REFERENCES:

1. Hawkes C. *Regulating and Litigating in the Public Interest: Regulating Food Marketing to Young People Worldwide: Trends and Policy Drivers*. *American Journal of Public Health*. 2007;97(11): 1962-73.
2. Kelly B, King L, Bauman A, Smith BJ, Flood V. *The Effects of Different Regulation Systems on Television Food Advertising to Children*. *ANZ Journal of Public Health*. 2000;31(4): 340-343.
3. Caraher M, Landon J, Delmeny K. *Television Advertising and Children: Lessons from Policy Development*. *Public Health Nutrition* 2006;9(5): 596-605.
4. Cornelius M, DeCourten M, Pryor J, Saketa S, Waqanivalu TK, Laqeretabua A, Chung E. *Fiji Non-Communicable Diseases (NCD) Steps Survey*. Suva: Ministry of Health; 2002.
5. Ministry of Health. *National Strategy to Prevent and Control Non-Communicable Diseases in Tonga (2004-9)*. Noumea: Secretariat of the Pacific Community; 2004.
6. Gopal A. Ministry Reviews 'Junk' Laws. [cited 2012/30/1] *The Fiji Times Online*, October 19 2011, Available at <http://www.fjijtimes.com/story.aspx?id=183641>.
7. Johnston S, Mendis S, Mathers C. *Global Variation in Stroke Burden and Mortality: Estimates from Monitoring, Surveillance, and Modelling*. *The Lancet*. 2009;8(4):345-54.
8. Kumar P. *Consumer Council of Fiji. 2008 [cited 2010/4/1]; Junk Food Generation: Marketing of Unhealthy Food to Children*. Available from: http://consumersfiji.org/index.php?option=com_content&task=view&id=42&Itemid=2
9. Story M, French S. *Food Advertising and Marketing Directed at Children and Adolescents in the US*. *International Journal of Behavioral Nutrition and Physical Activity*. 2004;1.
10. Hastings G, McDermott L, Angus K, Stead M, Thomson S. *The Extent, Nature and Effects of Food Promotion to Children: A Review of the Evidence*. Technical Paper Prepared for the WHO. Geneva: World Health Organization; 2006.

11. Zimmerman F, Bell J. Associations of Television Content Type and Obesity in Children. *American Journal of Public Health*. 2010;100(2):334-40.
12. Story M, Neumark-Sztainer D, French S. Individual and Environmental Influences on Adolescent Eating Behaviours. *Journal of the American Dietetic Association*. 2002;109(4):40-51.
13. National Obesity Taskforce 2007. *The Sydney Principles: Guiding Principles for Achieving a Substantial Level of Protection for Children Against the Commercial Promotion of Foods and Beverages*. [cited 2010/4/8]. Available from: <http://www.deakin.edu.au/hmnbs/who-obesity/reports/2007-sydney-principles.pdf>
14. Consumers International. *The Junk Food Trap: Marketing Unhealthy Food to Children in Asia Pacific*. Kuala Lumpur: Consumers International; 2008.
15. Preventative Health Taskforce. Australia. *The Healthiest Country by 2020 - National Preventative Health Strategy - the Roadmap for Action*. [cited 2012/30/1]; Canberra: Commonwealth of Australia; 2009. p. 126. Available from [http://www.preventativehealth.org.au/internet/preventativehealth/publishing.nsf/Content/nphs-roadmap/\\$File/nphs-roadmap.pdf](http://www.preventativehealth.org.au/internet/preventativehealth/publishing.nsf/Content/nphs-roadmap/$File/nphs-roadmap.pdf). Accessed 30 January 2012.
16. Hawkes, C, Lobstein, T. Regulating the Commercial Promotion of Food to Children: A Survey of Actions Worldwide. *International Journal of Pediatric Obesity*. 2011;6(2): 83-94.
17. Government of Ireland. *Broadcasting Act 2009*. Office of the Attorney General, Dublin; 2009, section 42 [cited 2012/30/1];. Available from <http://www.irishstatutebook.ie/2009/en/act/pub/0018/print.html>.
18. Food Standards Australia and New Zealand. *Calculation Method for Determining Foods Eligible to Make Health Claims*. FSANZ: Canberra; 2007.
19. Christakis D, Ebel B, Rivara F, Zimmerman F. Television, Video, and Computer Game Usage in Children Under 11 Years of Age. *The Journal of Paediatrics*. 2004;145(5):652- 56.
20. Nelson E, While D. Children's Awareness of Cigarette Advertisements on Television. *Health Education Journal*. 1992;51(1): 34-37.
21. Hitchings E, Moynihan P. The Relationship Between Television Food Advertisements Recalled and Actual Foods Consumed by Children. *Journal of Human Nutrition and Dietetics*. 1998;11(6):511-17.
22. CIIOT. *Recommendations for and International Code on Marketing of Food and Non-Alcoholic Beverages to Children*. London: Consumers International & International Obesity Taskforce; 2008.
23. Chuang Y, Cubbin C, Ahn D, Winkleby M. Effects of Neighbourhood Socioeconomic Status and Convenience Store Concentration on Individual Level Smoking. *Journal of Epidemiology and Community Health*. 2005;59:568-73.
24. Pollack C, Cubbin C, Ahn D, Winkleby M. Neighbourhood Deprivation and Alcohol Consumption: Does the Availability of Alcohol Play a Role? *International Journal of Epidemiology*. 2005;34(4):772-80.
25. Kirtland K, Porter D, Addy D, Neet M, Williams J, Sharpe P, Neff L, Kimsey C, Ainsworth B. *Environmental Measures of Physical Activity Supports: Perception Versus Reality*. *American Journal of Preventative Medicine*. 2003;24(4):323-31.
26. Utter J, Faeamani G, Melakellis M, Vanualailai N, Kremer P, Scragg R, Swinburn B. *Lifestyle and Obesity in South Pacific Youth: Baseline Results from the Pacific Obesity Prevention in Communities Project in NZ, Fiji, Tonga, and Australia*. Auckland: University of Auckland; 2008.
27. Hancox R, Milne B & Poulton R. Association of Television viewing During Childhood with Poor Educational Achievement. *Archives of Paediatric and Adolescent Medicine*. 2005;159(7):614-18.
28. Nielsen A. *Australian TV Trends: 2001*. Sydney: AC Nielsen Media International; 2001.
29. Beder S. 'A Community View', *Caring for Children in the Media Age, Papers From a National Conference*. Sydney: New College Institute for Values Research. 1998;101-11.
30. Kelly B, Cretikos M, Rogers K, Kind L. *The Commercial Food Landscape: Outdoor Food Advertising around Primary Schools in Australia*. *Australia and New Zealand Journal of Public Health*. 2008;32(6):522-28.
31. Luke D, Esmundo E, Bloom Y. *Smoke Signs: Patterns of Tobacco Billboard Advertising in a Metropolitan Region*. *Tobacco Control*. 2000;9(1):16-23.
32. Gunter B, Oates C, Blades M. *Advertising to Children on TV: Content, Impact and Regulation*. New Jersey: Lawrence Erlbaum Associates; 2005.
33. Shoham A, Dalakas V. How Our Adolescent Children Influence us as Parents to Yield to their Purchase Requests. *The Journal of Consumer Marketing*. 2006;23(6):344.
34. National Food and Nutrition Centre. *Food and Nutrition New Letter*, September 2011, National Food and Nutrition Centre 2011:3 (3).
35. World Health Organisation. *Set of Recommendations on the Marketing of Foods and Non-Alcoholic Beverages to Children*. Geneva: WHO; 2010.

DO at least 30
minutes of moderate
INTENSITY ACTIVITY
on 5 or more days
each week.

EXPOSURE TO ADVERTISING OF 'JUNK FOOD' IN FIJI

Raj Astika^{1,*}, Snowdon W¹², Drauna M³

Keywords: Advertising, Junk Food.

BACKGROUND

In the Pacific Islands, non-communicable diseases are the leading cause of death, and rates are increasing [1] associated with changing lifestyles. Dietary changes in particular have been extensive in recent decades [2], associated with urbanization and globalization of food supply. Unfortunately Fiji is part of this NCD (non-communicable disease) epidemic; with cases of diabetes, heart disease and stroke increasing. The prevalence of obesity in Fiji among children and adults has increased considerably over the last few decades [3], associated with declining physical activity levels and changing diets, including an increase in consumption of foods and drinks high in fat, sugar and salt and low intake of fruits and vegetables [3]. Some of the factors that drive dietary behavior are food prices, availability and knowledge. Knowledge and attitudes in turn can be influenced by food marketing and media. There is significant evidence that advertising influences children's attitudes and also that it influences their food buying behavior [4, 5]. The significant expenditure on advertising globally [6] also highlights how much value is placed on advertising by food industry and therefore the perceived scale of its impact. Brand recognition has been found to be high amongst children from an early age [6]. It is now widely accepted that the children need protection from exposure to excess advertising [7], particularly for foods and drinks which are less healthy (often termed 'junk foods') as this encourages their excess consumption.

In order to give some indication of the extent of advertising of 'junk foods' in Fiji, two small studies were conducted in 2010 [8] and in 2012. The first study in 2010 looked at advertising on television (Fiji TV and Mai TV), knowledge and behavior of a small group of school children and street advertising around schools and in the main areas of Suva. The study found high levels of advertising of 'junk' foods and drinks on streets, particularly around schools. The survey of around 200 primary and secondary school children in Suva found that children found adverts interesting and

that many had either asked their parents to purchase a product they had seen advertised or bought it themselves. Some were also confused about healthier drinks and foods as they had misunderstood or seen misleading adverts. Almost all of the children watched television every day, particularly secondary students who tended to watch much more. The free to air channels were the most watched, compared to DVDs and satellite television [8].

Since this study was undertaken, a new TV channel started here in Fiji, FBC TV. In 2012, to complement the Hope study [8] this channel was also assessed for its food and drink advertising, using the same methodology. The study's design was to record the channels from 6am to 9pm on two weekdays and two weekend days. It was expected that advertising and programming would be different during weekdays than weekends, and hence the inclusion of both. The product being advertised was recorded, along with associated information such as promotional/competition, including child actors or cartoon [9]. A nutrient profiling system, which has been previously used in Fiji was then used to classify products as 'healthier' or 'less healthy'/'junk foods' [10].

This study found that levels of advertising on FBC's had the lowest proportion of the 'junk' advertising compared to other channels (in 2010); however, still almost two thirds of food and drink adverts were for 'junk' foods and drinks (65%). FBC was also unusual in that, in the programming intended specifically for young children in the early morning and afternoon, there was no advertising content at all. There was sponsorship of these features but this only included logo of supermarkets or non-food companies. Other broadcasting media could consider a similar approach to this for children's programming.

The study in 2010 also found that half of the surveyed primary school children and 8 out of 10 secondary school students reported hearing food and drink advertising on the radio [8].

1. C-POND, Fiji School of Medicine, College of Medicine, Nursing and Health Science, Fiji National University, Fiji.

2. WHO Collaborating Centre for Obesity Prevention, Deakin University, Australia.

3. College of Medicine, Nursing and Health Science, Fiji National University, Fiji.

*. Address for Correspondence: astika.prasad@fnu.ac.fj.

To explore more on this finding, a study was carried out in 2012 on radio advertising in Fiji. Three prominent radio stations here were included in this study; FM 96, Radio Navtarang and Bula FM. While food and drink advertisements were only a small proportion of the total advertisements (9-15%), adverts for less healthy food and drink exceeded those for healthy ones. On FM96 and Bula FM, 6 out of 10 food advertisements were for less healthy food and drinks. However, Radio Navtarang had more healthy food and drinks adverts, with only 3 out of 10 food adverts on less healthy food. Within the three stations surveyed, the majority of food advertisements were played during the weekdays rather on during the weekend. On FM 96, 57% of the food adverts were aired during the week days; for it was Radio Navtarang 53%; and Bula FM had 68% of its food adverts aired in the week days. A number of food companies or products sponsored specific shows or programs on the radio stations during the data collection period and were therefore advertised heavily.

Studies elsewhere have consistently found that the advertising of less healthy foods and drinks is high [11, 12]. This study along, with the previous Hope study [8] clearly indicates problems with the levels of less healthy food and drink advertising. The studies also indicate that children's' ability to distinguish between advertising and fact can be poor; they are particularly vulnerable to the influence of advertising messages which involve cartoons or other children on television and elsewhere. These preliminary studies indicate that there is a problem of marketing of 'junk foods' in Fiji and that this is particularly a problem, during hours when children are likely to be watching and in areas around schools. We believe these studies point to the need for stronger efforts from government, industry and civil society to protect children and adolescents from 'junk food' advertising.

ACKNOWLEDGEMENTS

The assessment of radio advertising was conducted by Miriama Drauna as a student research project at CMNHS, FNU. The assessment of advertising on FBC TV was conducted by C-POND as part of a sub-regional study funded by the South Pacific Office of the World Health Organization.

REFERENCE

1. Hughes R, *Diet, food supply and obesity in the Pacific*. Manila: WHO Regional Office for the Western Pacific; 2003.
2. Coyne T, *Lifestyle Diseases in Pacific Communities*. Noumea: Secretariat of the Pacific Community; 2000.
3. Ministry of Health, *National Nutrition Survey 2004* Suva: Ministry of Health 2007.
4. Hastings G, et al., *Review of research on the effects of food promotion to children*. Final report. Centre for Social Marketing; Glasgow; 2003.
5. Halford J, et al., *Beyond-brand effect of television (TV) food advertisements/commercials on caloric intake and food choice of 5-7-year-old children*. *Appetite* 2007, 49(1):263-267.
6. Kopelman CA, L.M. Roberts, Adab P, *Advertising of food to children: is brand logo recognition related to their food knowledge, eating behaviours and food preferences?* *Journal of Public Health* 2007, 29(4):358-367.
7. World Health Organisation, *Set of Recommendations on the Marketing of Foods and Non-Alcoholic Beverages to Children*. Geneva: WHO; 2010.
8. Hope S, Snowden, W, *'Junk Food' Advertising to Children and Adolescents in Fiji*. Suva: Fiji School of Medicine; 2010.
9. Consumer International, *Consumers International, The Junk Food Trap*. Marketing unhealthy food to children in Asia Pacific. London: Consumers International 2008.
10. FSANZ, *Calculation method for determining foods eligible to make health claims 2007* [cited 2013 22/2/13]; Available from: [<http://www.foodstandards.govt.nz/foodstandards/nutritionpanelcalculator/>]
11. Story M, French S, *Food Advertising and Marketing Directed at Children and Adolescents in the US*. *International Journal of Behavioral Nutrition and Physical Activity* 2004, 1(1):3.
12. Wiecha J, et al., *When Children Eat What They Watch: Impact of Television Viewing on Dietary Intake in Youth*. *Archives of Pediatric Adolescent Medicine* 2006, 160(4):436-442.

you don't stop moving

because you

get old.....

you get old because you

STOP MOVING!!

2011 FIJI HIBISCUS FESTIVAL HEALTH AUDIT

A report by the Nutrition and Dietetics program staff and students of the College of Medicine, Nursing and Health Sciences (CMNHS), Fiji National University.

K Bulamainavalu¹, SC Naliva^{1*}, DK Sauliga¹, L Vili¹ and T Prasad¹

Abstract:

The Pacific ministers of health meeting in the Solomon on 28th – 30th June 2011 declared “Pacific in crisis due to NCD”. This has raised concerns on the high rates of NCD’s and strategies need to be developed by member countries to combating the crisis. This study collects and analyzes data of the 2011 Fiji Hibiscus carnival screening program carried out by the Nutrition and Dietetic Unit of CMNHS. The finding has highlighted that 83.4% of the total population screened were overweight and obese. In terms of distribution, obesity was found to be common among the I-Taukei, age range of 40-61, and most common among female. With body fat distribution it signifies that as BMI increases body fat level of individuals also increases. High blood pressure was common among the population as compared to high blood sugars. Thus the result of this study has highlighted that NCD is a growing crisis and need to be reduced. Thus intervention needs to be carried out by a coordinated body of professionals and aims to modifying individual behavior and national food supply system.

Introduction

The latest World Health Organization (WHO) estimates show that 60% of all deaths in the world are now caused by Non communicable diseases (NCDs) and 46% of the global burden of disease. Every third death in the world is cardiovascular and coronary heart disease is the number one killer in the world.¹ While the process of globalization have improved standards of living and greater access to services, there have also been significant negative consequences in terms of inappropriate dietary patterns and decreased physical activities and a corresponding increase in nutrition and diet-related diseases.^{2, 3, 4.}

The Pacific islands are currently suffering a double burden of communicable and NCDs⁵ along with over and under nutrition. While some countries like Papua New Guinea and Solomon Islands still have relatively low obesity rates with underweight and under-nutrition persisting as significant health concerns,^{6,7.}

Other countries, including Nauru and Tonga, are well known for their high obesity rates. They suffer less from under nutrition, although micronutrient deficiency persist.^{8, 9}

While each Pacific countries have unique food supply and health problems, similarities are found in their over reliance and dependence on imported foods and declining food self sufficiency.⁸ Huge shifts in dietary habits are occurring, with imported products such as rice, bread and noodles replacing traditional staples, meat products replacing fish and sugary products replacing traditional snacks such as fruits.⁸

In Fiji, the Ministry of Health placed NCDs as the leading cause of deaths for many years and it continues to be a challenge.^{10, 11} The magnitude of NCD risk factors in Fiji was earlier highlighted in 2002 step survey which showed over half of the adult population were overweight.¹² By 2009 MOH singled out anemia as a major problem for Fiji and estimated half of the population rely on the supermarkets for their food.

The Fiji NCD-STEPS 2002¹² survey documented the prevalence of key NCDs in Fiji and also determined the prevalence of major risk factors and their associations for common NCDs in Fiji. The report revealed not only high prevalence of health conditions as hypertension, diabetes and obesity in Fiji population surveyed but also the high rates of risk factors associated with it.¹² The number of NCD-related deaths continues to increase nevertheless awareness programs are being implemented.

In her study, Coyne⁶ identified that the changing dietary pattern plays a major influence on the development of obesity, and many lifestyle diseases. The modern diet has changed from one of predominantly root vegetables, coconut, fresh fish and green leaves, to one consisting of rice, bread, tinned fish and meat, sugar and salt. Research by WHO (2002) has shown that addressing major risk factors are through improving dietary pattern, increasing physical activity and controlling the use of tobacco and alcohol can have a significant effect on lessening the incidence of NCDs, preventing up to 80 per cent of heart disease, stroke and Type 2 diabetes, and 40 per cent of cancer.¹³

1. School of Public Health & Primary Care, College of Medicine, Nursing & Health Science, Fiji National University
*Address for correspondence: salanieta.corerega@fnu.ac.fj

A community study in Tailevu, Fiji ¹⁴ in 2012 found high consumption of cereal products such as rice, flour, biscuits and noodles which was consistent with the 2004 Fiji National Nutrition Survey (NNS) ¹⁵, the Naduri survey¹⁶ and also the Food Balance Sheet 2008 data.¹⁷ These dietary changes are leading to lower intakes of key vitamins and minerals thus contributing to the high rates of micronutrient deficiencies seen around the region. ⁹

Background to the health screening

Every year the College of Medicine Nursing and Health Sciences (CMNHS) provides free health screenings during the Hibiscus Festival for the public. Since 2009 the College of Medicine has been engaged in Health Screening only at the Hibiscus Festival, initially the idea behind this activity was to provide this service to the general public with the idea to collect sample data from a random group. Since 2010 the FSM Projects Office has made considerable efforts to improve the service delivery and engage other departments in this exercise and to also work with the Research Department to try and extract data throughout the process. The Health Tent in 2010 was able to deliver Health Screening, Oral Health services, Eye Care and Nutrition services. This was successful in its approach; however this activity needed a proper data collection tool that could be used to extract credible data.¹⁸

In 2011, Projects Team Leader in consultation with Research Department staff and colleagues decided to use the Mini Steps Survey as the tool for data collection for the Health Screening component. ¹⁸ The Health Tent in 2011 was able to offer Health Screening (this included consultation with a physician and nutritional advice), Oral Health, Eye Care, and Physiotherapy services with other complementary services which offered advice in Pharmacology and Maternal Health.

Health screening survey rationale and objectives

The overall objective of the health screenings is to enable the members of the public to identify their risk factors and detect diseases at an early stage and seek early intervention as literatures^{3,4,5,6} have found that risk factors today will lead to consequences of diseases in the future.

It is the intention of this paper to identify those at risk from NCDs and offer nutritional advice to these participants.

Results:

Demographic:

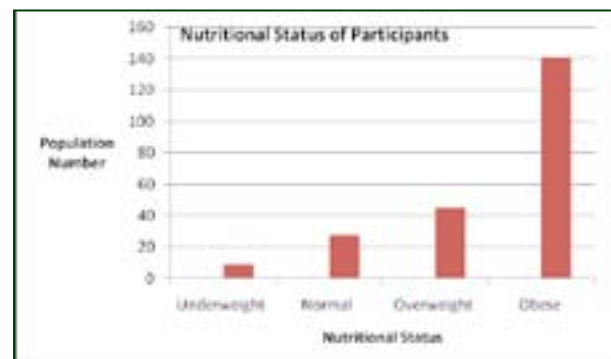
Majority of the screened population were I-taukei. Most were females and age ranges of 40-61.

	I-taukei		I-Taukei		Others		Grand Total	
	n	%	n	%	n	%	n	%
Age (years)								
5-17	2	7	10	11	12	8	4	5.7
18-27	13	18.5	20.4	22.2	14.8	7.4	1	10
28-37	13	37	44	54	9	6.7	6.7	10
38-47	24.7	29.3	23.7	6	3	5	2	2
48-57	7	1	1	10	25	10	10	93
58-67	5	5	5	22	27	50	63	63
68-77	14	3	9	12	22	28	19	7
GENDER								
Female	24	29	63	37	89	40	38.3	48.7
Male	19	39	39	50	121	90	70.4	68.6
All	34	24.2	190	60.5	210	8.9	224	100

Nutritional status:

Majority of the screened population, 83.4% were overweight and obese.

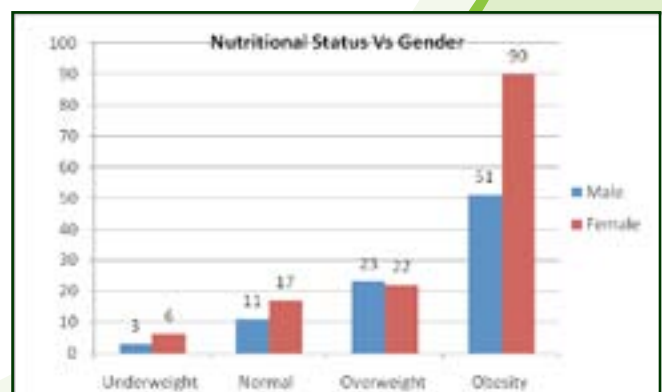
Figure 2.1 Nutritional status of the screened population.



Nutritional status verses gender:

There is higher number of females in each of category of the nutritional status assessed which could also be due to the higher number of females that volunteered to participate in this screening program.

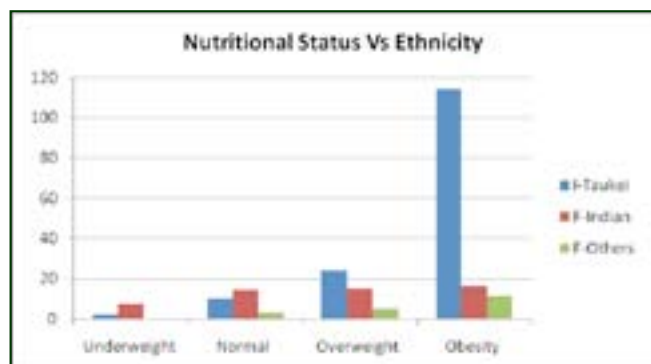
Figure 2.2. Nutritional Status Vs Gender.



Nutritional status versus ethnicity:

The I-Taukei represented the large proportion of overweight and obesity in this population under study.

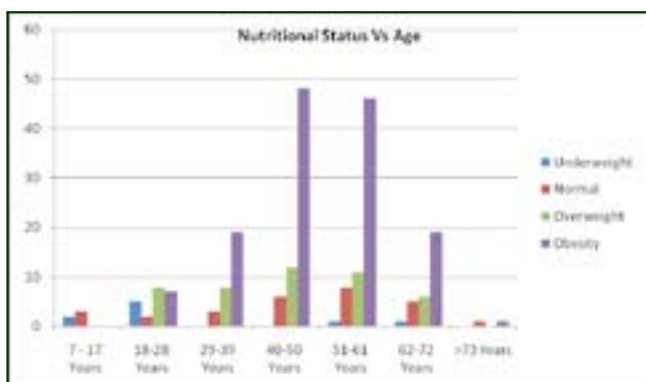
Figure 2.3 Nutritional Status Vs Ethnicity



Nutritional status versus age:

The majority overweight and obesity in the population were found between the age ranges of 40 – 61 and underweight was mostly significant at younger age.

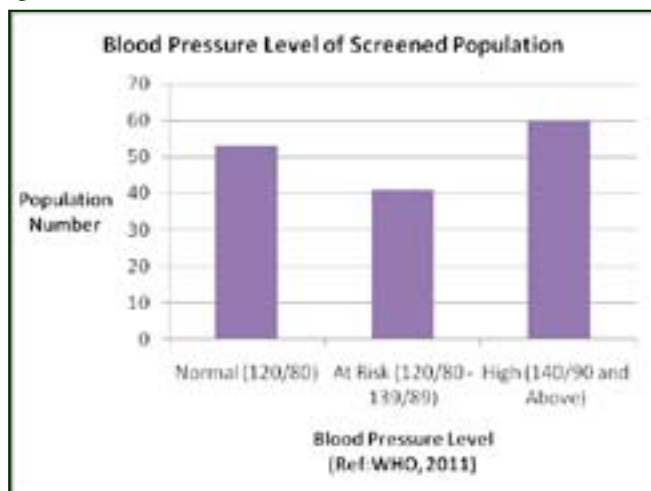
Figure 2.4 Nutritional Status Vs Age



Blood pressure:

Majority has high blood pressure level at time taken.

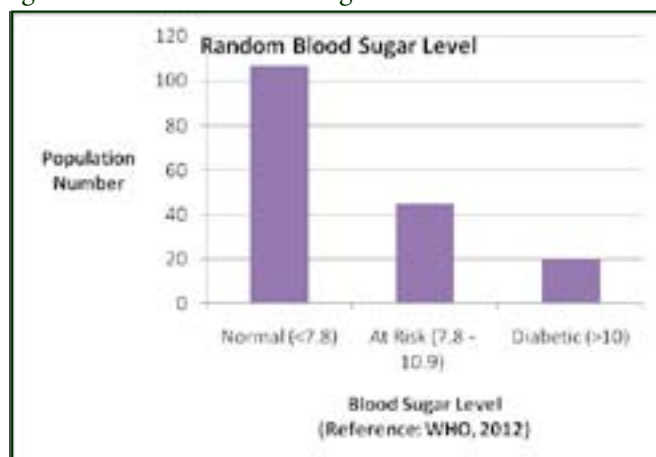
Figure 2.5. Blood Pressure Level



Random blood sugar:

Majority had normal random blood sugar level.

Figure 2.6. Random Blood Sugar Level



Percentage body fat level of male and female.

The two tables signify that body fat level in male and female in this population are all high.

Figure 2.7. Percentage Body Fat Level of Male.

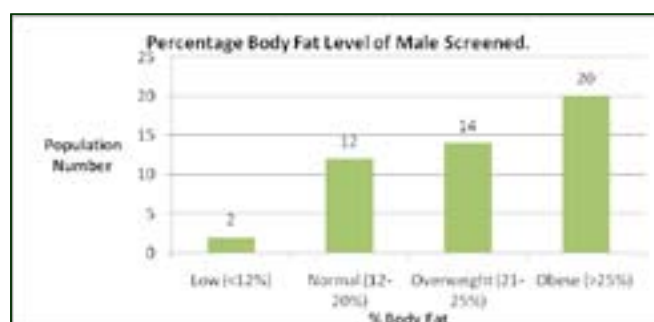
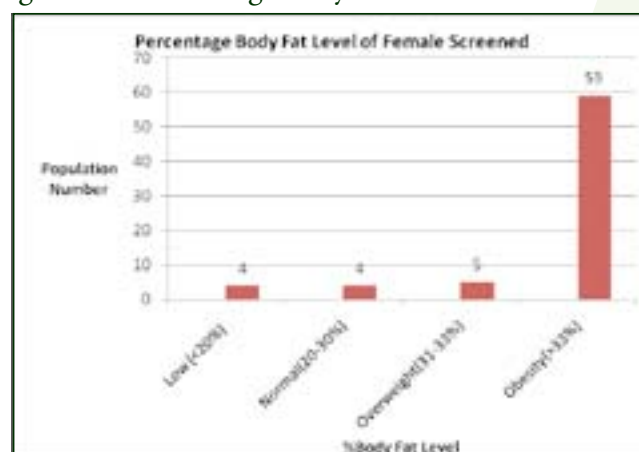


Figure 2. 8. Percentage Body Fat Level of Female.



Discussions

Findings from these data shows that overweight and obesity was common in the population which comprises of 83.4% of the population screened and high amongst the I-Taukei female with age range from 40 – 61. The rising rate of obesity in the country has also been cited in two national studies, 2004 NNS and 2002 Step Survey done in Fiji which also found that

80% of the population are overweight and obese and suffer from other non communicable diseases.

The 2002 NCD step survey has also highlighted that higher BMI was common among females and it increases with age. The I-Taukei was found to have a higher mean BMI range than other Fijian of Indian origin. Therefore, finding from this study is found to be a trend in the nutritional status of the Fiji population in the past decade and is still an unchanging trend.

Rise in blood pressure and sugar level is usually the resultant of high BMI range. From this analysis it indicates that elevated blood pressure was high among the screened population and elevated blood sugar level were not so much of significant in the analysis. The 2002 NCD step survey indicated that hypertension were always common among I-Taukei and diabetes among Fijian of Indian origin. This could also be related in this study due to the uneven population distribution with majority of the population were I-Taukei thus high blood pressure was high and diabetes was lower due to the lower number of Fijian of Indian origin in the analysis.

Body fat level in the screened population was high among the two genders. Larger body size is always valued in most traditional Pacific.¹⁹ The findings revealed that most females were overweight but they were satisfied with their lower and middle body image. Overall findings from this analysis has confirmed to what has been published in other national studies done in Fiji in terms of the nutritional status of our population. So we are challenged with nutritional intervention that needs to be formulated to combat the rising trend of obesity and other non communicable diseases in Fiji.

The results of this study had highlighted that non communicable diseases cannot be resolved by health professional alone but will need a coordinated body of stakeholders. Intervention needs to focus on behavior modification and modifying our food supply system.

Thus in combating NCD crisis it would be a challenge on health professional to try to understand individuals behavior and finding means of motivation to adopting a healthier lifestyle. With our food supply system we have been bombarded with accessibility to unhealthy foods, thus restricting or reducing accessibility to our people will need us to tap into policy and legislative measures.

Limitations

Recording of data was inconsistent, no standard format to follow as some important information was missing, and this affected data entry and led to bias findings

that cannot be generalized to whole population. There was uneven population distribution under study in terms of gender, ethnicity and age. The total energy requirement (TER) could not be estimated as was not captured during the screening program.

Strengths

The screened population was aware of NCDs and the risk factors thus they make use of the free health screening.

Future Work

The need for consistent recording of data and nutrition intervention to target behavior and lifestyle modification.

References

1. Murray CJL, Lopez AD. Global mortality and health, disability and the contribution of risk factors: Global Burden of Disease Study. *Lancet*; 349:1436-42, 1997.
2. WHO. Obesity: Preventing and managing the global epidemic, Report of a WHO consultation, WHO Technical Report Series, No.894, 2000.
3. Popkin, BM. Urbanization, lifestyle changes and the nutrition transition. *World Development* 1999;27:1905-16.
4. Waxman, A. WHO's global strategy on diet, physical activity and health. *Scandinavian Journal of Nutrition*. 2004;48(2):58-60.
5. Waxman A, Norum K. Why a global strategy on diet, physical activity and health? The growing burden of non communicable diseases. *Public Health Nutrition* 2004;7(3): 381-3.
6. Coyne T. Lifestyle Diseases in Pacific Communities. Noumea: Secretariat of the Pacific Community; 2000.
7. Snowdon W, Joel N, Marj M. Building an economic case for food interventions in the Pacific. *Pacific Health Dialog*. Sept 2010, Volume 16 Number 12. Pages 24-28.
8. Hughes R. Diet, food supply and obesity in the Pacific. Manila: World Health Organization Regional Office for the Western Pacific; 2003.
9. Darnton-Hill I. Control and prevention of micronutrient malnutrition. *Asia Pacific Journal of Clinical Nutrition* 1998; 7 (1): 2-7.
10. Ministry of Health Annual Report. 2005. Suva, Fiji.
11. Ministry of Health Annual Report. 2009. Suva, Fiji.
12. Ministry of Health. Fiji Non-Communicable Diseases (NCD) STEPS Survey 2002. Ministry of Health: Suva, 2002.
13. WHO. Reducing Risks, Promoting Health Life. Geneva, World Health Organization, World Health Report 2002.
14. Bulamainivalu K, Naliva S, Khan S. Study on the Dietary Pattern of Molitua & Vusuya Communities- Tailevu. 2012. (Unpublished).
15. 2004 Fiji National Nutrition Survey. National Food and Nutrition Center, Suva. Fiji. September 2007.
16. Report of the Fifth Decennial Naduri Nutrition and Health Survey. June 24-July 2nd 1994. National Food and Nutrition Center. January 1996. Suva, Fiji.
17. 2008 Fiji Food Balance Sheet. National Food and Nutrition Center. Ministry of Health. December 2009. Suva, Fiji.
18. HEALTH AUDIT TENT, 2011 REPORT ON HEALTH SCREENING AND HEALTH ASSESSMENT DURING HIBISCUS FESTIVAL, AUGUST 22nd-27th, 2011. REPORT COMPILED BY: Nola Vanualailai (Research Unit), Peter Sipeli (Project office), Graeme Nicholls (Education Manager, PEI)
19. McCabe MP, Ricciardelli L, Waqa G, Goundar R and Fotu K. Body image and body change strategies among adolescent males and females from Fiji, Tonga and Australia. *Body Image* 6 (2009) 299-303

Wellness FIJI - from NCD Crisis (2011) to Healthy Islands (1995)

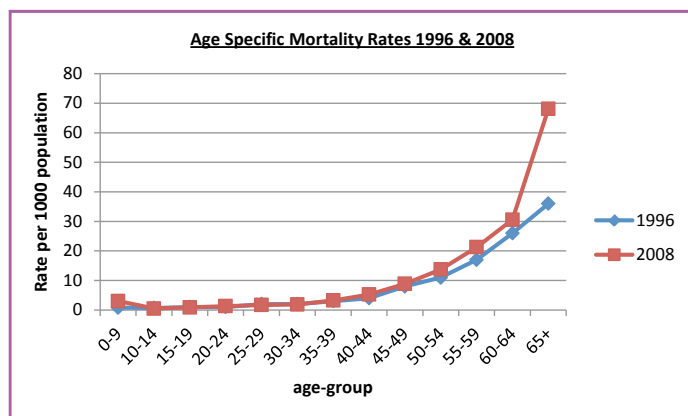
Dr. Isimeli Tukana^{1*}

*“from medical beings to lifestyle beings”
“from a medical response to a social response”
“from Honiara to Yanuca”*

Introduction

Ministry of Health FIJI merged the Non communicable diseases (NCD) Unit with the National Centre for Health Promotion (NCHP) in February 2012. The merged unit was mandated to develop the Wellness Fiji Framework.

The Trigger – Age Specific Mortality trends (1996 – 2008)



Source: Health Information Unit, Ministry of Health, Fiji

The sudden increase in the trend of **premature deaths** (deaths below 60 years); from average rate of 200 per 1000 per year at age 40, to about 800 per 1000 per year at 59 years, provided the trigger for wellness thinking. NCD CRISIS also known as the NCD Tsunami triggered wellness thinking for Fiji

The shift from NCD control to Wellness



80% of Fijian deaths are due to NCDs, mainly cardiovascular and 80% NCDs are preventable through risk behaviour intervention. If Fijians are increasingly dying of NCD at 40-45 years, then they must be sick at about 20 years, as disease is chronic in nature. If Fijians are increasingly sick at around 20

years of age then risk behaviour must have settled in at childhood. Therefore to affect the premature mortality trend, we need to affect the morbidity trend. To affect morbidity, we need to address risk behaviour at childhood. The strategic shift is to move Fijians from medical beings to lifestyle (social) beings. The strategic shift is to move Fijians from the Honiara Communique 2011 to the Yanuca Island Declaration 1995 thus move Fiji from NCD Crisis to Wellness Fiji. The strategic direction is to move Fijians from a socio-cultural lifestyle to a socio-economic lifestyle that responds appropriately to globalisation, urbanisation, trade and contemporary Fiji.

Wellness Matrix – applying the rule of seven (7)

Wellness Fiji aims to reduce behavioural risk in the Fijians population throughout their lifespan, from conception to adulthood.

The Fijian population is divided into seven cohorts identifying where each of the cohort is identified using the rainbow colours for reference. Three human development milestones was appropriately aligned to the matrix, namely; brain growth, physical growth and reproductive growth in a lifespan.

Seven human behaviours, considered wellness behaviours namely; breathing, eating, drinking, moving, thinking, resting and reproducing constitutes the y-axis of the wellness matrix.

These seven behaviours represent vital human behaviours needed for creating and maintaining human wellness and reducing risk to illness as one sails through life



Wellness Fiji Matrix

1. Wellness Center, Ministry of Health, Fiji

*Address for Correspondence: Isimeli.tukana@govnet.gov.fj

Wellness Fiji is about promoting wellness behaviour commencing at pregnancy in a manner that will harvest wellness as each Fijian sails through the seven cohorts of living and through the 3 major developmental milestones – intellectual, physical and reproductive phases.

In Wellness Fiji context, Fijians think, do and reproduce wellness where they live, work and play, as they sail from conception to senior citizen. As they sail, any deviation from wellness are detected early and intervention implemented so as to reverse, prevent complications and rehabilitate all to wellness.

Wellness Fiji is a product, present within all Fijians at conception, and is to be harvested throughout their lifespan. The product has seven dimensions (social, mental, physical, financial, spiritual, occupational and environmental) – achieved by empowered settings, through a contemporary Primary Health Care delivery system that uses contemporary health promotion strategies and methods.

Wellness Fiji objective is a national state of **BULA** – **B**elieving and **U**nderstanding **L**IFE in **A**ction. Fijians think, do and reproduce wellness where they live, work and play in all stages of their lives.



Through strengthened and contemporary Primary Health Care System and Health Promotion platform, Ministry of Health is determined to sell wellness into all settings in Fiji, through a whole of government and whole of society collaboration, as a means of prevention and control of diseases in Fiji, and achieving of the 7 dimensions of wellness.

Wellness Fiji empowers Fijians to harvest the wellness within them, focussing on the social determinants of health, as her lifeline to the disease crisis she faces in the 21st Century.

At the same time speciality development is encouraged on the right end of the wellness spectrum so as to improve quality of life to all Fijians who acquire diseases at different stages of care.

EAT WELL

DRINK WELL

REST WELL

THINK WELL

EXERCISE WELL

BREATHE WELL

REPRODUCE WELL

Wellness Application to the Fijian Health System

Wellness FIJI is the Fijian definition of health, re-focussing on the Yanuca Island Declaration 1995, and responding to the Pacific NCD Crisis (2011).

Oral Health at the Ante Natal Clinic - A Health Promotion Perspective

Nemaia Loga^{1*}

Keywords: Oral Health, Ante Natal Clinic, Mother, Baby

Introduction

Oral health is the essence of humanity, a natural, functional, acceptable masterpiece of creation which enables an individual to enjoy life, look, speaks, chew, taste food and socialize. It is the natural mode for the nourishment of the body and the transmitter of thoughts in life. Oral health represents the intimate face, voice and feeling of an individual, a reflector of choice.

The mother

As the face and voice of the unborn the responsibility rests especially upon the mothers for by her lifeblood the child is bonded, nourished, physically built up and she imparts mental and spiritual influences that tend to shape both mind and character. Prenatal influences are of great importance for two generational lives depend upon her lifestyle. The mother should cultivate a cheerful, contented, happy, disposition during pregnancy.¹

Figure 1: The lifespan

Life stages	Womb	Infant	Toddler	Children	Teenagers	Adults	Senior citizens
Age range	9 months in vitro	0-1 year	1-5 years	6-12 years	13-19 years	20-60 years	60 years+

The Regional Framework for Health Promotion

The regional framework for health promotion 2002-2005 mission is to make healthy choices, easy, early and exciting for everyone everywhere with the specific objectives of; i) promoting health in settings where people live, work and play; ii) preventing risks associated with age specific development stages throughout life and iii) reducing vulnerability and risks to health and groups that are marginalized due to gender, ethnicity, age and socio economic status.²

Health Promotion at the Ante Natal Clinic (ANC)

The start of the lifespan begins in the womb as depicted by the red colour of the rainbow concept in the wellness approach as shown in figure 1.

One of the Primary roles of the Ministry of Health officers assigned to the ANC clinics is to communicate wellness to mothers, husbands and other support persons during their first bookings.

The common Factor Approach

The basic aim of the ANC clinics is to inform for mothers about their pregnancy status, encourage them to book early and attend all their clinics and to anticipate a safe and normal delivery. The Ministry of Health staffs uses an integrated approach to communicate strategic wellness messages to mothers to facilitate their understanding of their personal needs and also help them realize and create simple healthy lifestyles with the baby in mind.

Mothers are advised to use the free gifts of life of; breathing fresh air always, eating more locally grown

vegetables and fruits, drinking clean water, moving with agility, having factual notions, living simple restful lifestyles and to nurture children in body and mind in the womb stage as depicted in figure 2.

Figure 2: The 7 Gifts for Mother

Gifts /STAGE	Baby in the womb
Breathing	Breathe fresh air always
Eating	Local vegetables/fruits
Drinking	Water
Moving	Agility
Thinking	Facts
Resting	Restful
Reproducing	Nurture

1. Wellness Centre, Ministry of Health, Fiji

* Address for Correspondence: loganemaia@yahoo.com

In the process of promoting wellness at the ANC level, it is important that mothers and supporting persons are duly informed to be conscious of the 7 basic naturally inbuilt oral health functions/principles which contribute to the holistic development of a person. The 7 basic oral health functions/principles are as follows and are also shown in figure 3;

- i. Mothers need to understand the right principles of eating and drinking and the primary reflex actions involving the brain, mouth and stomach.
- ii. Mothers should readily take simple nutritious food and regularly do healthy activities that promote physical and mental strength during pregnancy.
- iii. Mothers need to learn to have nutritious food that will help build up her body and that of her unborn child rather than merely gratifying her own tastes and appetite.
- iv. Mothers need to chew their food slowly in an appreciative and conscious manner so that it is mixed well with the initial digestive fluid- saliva, before other digestive fluids be called into action.
- v. Mothers need to maintain having quality functional and healthy mouth through daily cleaning of the gums, teeth and tongue.
- vi. Mothers need to know that tooth development plan for the lifespan starts during the early stages of pregnancy.
- vii. Mothers need to have a positive character and literally be the first to bless her unborn child with choice words.

Figure 3: Oral Health approach from Mother to Child

Life Stage	Womb stage
Teeth process	Teeth development process starts in the womb
Eating	Eat locally grown fruits and vegetables daily
Drinking	Drink clean water daily
Home care	Brush gums, teeth and tongue for at least 2 minutes 2-3 times daily with pea size fluoridated toothpaste
Breathing	Breath fresh air always
Service care	Visit dentist for advice
Benefit	Healthy gums, strong 32 teeth , fresh breath
Added benefits	Eating well, talking well, looking well and feel think move and rest well

Oral Health a Womb start

Oral health development including the formation of the 20 primary and 32 permanent teeth begin at the designated time starting from the early stages of pregnancy right up to late teens and early twenties.

Therefore the knowledge, understanding and practice of the mothers are important for it has an impact on the oral health status for herself and the baby during pregnancy and after birth.

The National Oral Health Survey Report-2004

The National Oral Health (NOH) survey of 2004 shows that 88.3% of children below 6 years had signs of caries involving their primary teeth; 85.2% had primary teeth with untreated caries; 49.1% with four or more decayed primary teeth and stratified analysis revealed no differences by either gender or ethnicity.

The Survey showed a high incidence of dental caries among 6 year olds, low oral health seeking behaviors and a general lax of attitude among parents and caregiver's towards primary dentition of the 6 year old children in Fiji.³

Oral health Recommended strategies at ANC level

Based on the 2004 NOH survey results the, National Oral Health Planning Group came up with initiatives to help instill the natural oral health development using the wellness concept of the normal growth plan.

One of the recommendations from the 2004 survey result was to implement education and intervention

programs for mothers beginning with prenatal care since the bacteria that cause tooth decay are usually transmitted from the mother to the child at about age

1 and that the first dental visit to occur when the first primary tooth erupts. To achieve this it is recommended that the antenatal and post natal dental programs be reviewed and to re engineer current strategies to maximize output.³

A Healthy 5:20 Smile –a wellness indicator

It is crucial for the mothers to have factual information concerning themselves and the developing child for she is molding two generational life spans.

The mother's nutritional, health care approach, lifestyle and perceptions are some contributing factors that help children being nurtured holistically in body and mind.

A national program themed "A healthy 5:20 Smile" was launched in 2009 to help guide the stakeholders promote and advocate that the children of Fiji should have 20 healthy primary teeth at 5 years of age.

Conclusion

Oral health care at ANC level needs to be strengthened and a more vigorous approach towards promoting oral health hygiene at this level needs to be considered concertedly by all relevant stakeholders for it is a population nurturing level targeting social determinants at early life. At this level, the mother is an important agent of transforming the generations towards healthy lifestyles.

References

1. White E G ; ed 2004 *The Ministry of Health and Healing and adaptation of The Ministry of Healing*; ; chapter 31 pg 210; Pacific Press Publishing Association, Ontario, Canada
2. World Health Organization, Western Pacific Region; *Promote Health*; June 2003, Manila, Philippines
3. Ministry of Health ; *National Oral Health Survey Report*; 2004; Suva, Fiji

HEALTHY TEETH LAST A LIFETIME!!

Working Towards Wellness-Initiative Supported by FHSSP

Dr M. Cornelius^{1}, Dr I. Tukana²*

The NCD Unit of the Ministry of Health Fiji has developed a multi-strategic approach to tackling the NCD challenge as captured in its 2010 to 2014 NCD National Strategic Plan. In addition to this, the 'Rainbow approach – Targets for Healthy Living' was developed in 2011/12 (from conception to old age), addressing seven cohorts according to their stages of life and needs (fetus, infant, toddler, child, teenager/adolescent, adult and senior citizens); providing different packages of services to these cohorts through different service outlets, mobilizing community support for healthy living and helping provide supportive environments. The NCD Tool Kit Screening and Intervention (TKSI) Program is one strategy aimed at the adult population. The purpose of this program is to screen adults over the age of 30 years and intervene to help reduce their major risk factors, if they have not already developed an NCD. If clients tested positive for an NCD, they are referred to the regular clinics for full investigation and follow-up.

Wellness in Fiji is compromised due to a large NCD burden. Even though the statistics are 10 years old, having 19% of the adult population with hypertension and 16% with diabetes is a huge burden to the Fiji health system. The 2002 NCD STEPs survey also revealed that there was a pool of people in the community who were asymptomatic hence undiagnosed for diabetes and/or hypertensive. These people if not diagnosed and managed appropriately will present with complications and/or premature death. The rampant lifestyle change (so-called westernization) has increased the threats to wellness and supports the development of NCDs in adults and children alike.

The NCD TKSI Program aims at a specific cohort of people - adults. The cut-off age is arbitrary however it supports the attainment of the target. The aim is to screen and provide wellness intervention in 20% of the people aged 30 years and over in each zone per year, hence covering 100% in the next 5 years.

Each District and Zone Nurse has a community to provide health care services to, to keep them healthy. They provide a wide range of services including maternal and child health, immunization, family planning, reproductive health, STI/HIV prevention, domiciliary care and others. These same nurses are implementing the NCD TKSI program in their respective zones as an additional strategy to promote wellness and prevent illness.

In 2004/5, the western health services initiated and trialed a program titled "Diabetes prevention through primary health care services – the SNAP program". This program had the aim of early detection and management of new cases of NCDs especially diabetes, early intervention for four major risk factors (Smoking, Nutrition, Alcohol and Physical inactivity – SNAP) and promoting health at community level. A hundred sets of NCD Tool kits were distributed to zone and district nurses after training them for this intervention program. The nurses worked in partnership with dieticians and community rehabilitation assistants. A development partner (AusAID through the Fiji Health Sector Improvement Program – FHSIP) provided the funding for this new initiative.

With the positive outcomes recorded from this intervention and identification of areas that could be strengthened, recommendations were made to nationalize the program from 2007 onwards. While MOH was in the process of acquiring the required resources, another AusAID funded health program was being negotiated. This program was requested to support the strengthened and upgraded NCD TKSI program.

The NCD Tool Kit Training manual was developed in June with the support of the AusAID funded FHSI Interim program in 2011. After July 2011 the Fiji Health Sector Support Program - FHSSP (New AusAID funded health program) helped procure a new water-proof haversack (with the NCD and AusAID logos) designed and sourced from a local supplier, the model of the sphygmomanometer was changed to digital (to introduce newer technology and reduce the weight of the haversack contents), other tools such as the wellness register, client-held Personal

1. Fiji Health Sector Support Program (FHSSP)

2. Wellness Centre, Ministry of Health, Fiji

* Address for Correspondence: margaret.cornelius@fhssp.org.fj

Health Record book and laminated traffic-light charts for discussing results with clients were added to the Tool Kits. Similarly, resource materials (such as the patient-held Personal Diabetes Record Books, newly designed SOPD registers and introduction of HbA1c tests) were also made available for follow-ups in the SOPD clinics in Sub-Divisional hospitals. (Some of these services will be rolled out to the Health Centers and nursing stations over the next few years.)

The strengthened NCD Tool Kit Training program for Community Health Nurses was officially launched in May 2012 in the Central division. Renewed emphasis was placed on the mini-steps questionnaire and follow-up of clients with risk factors (including the behavioral/lifestyle risks, abnormal weights and /or impaired blood pressure or blood chemistry results). Since this is proposed to be a long –term strategy for wellness promotion the guiding principles for screening were: **slowly** (to cover the target population), **thoroughly** (including assessment and intervention on lifestyle risk factors and positive reinforcement for healthy behavior) and **sustainably** (getting clients/people to take responsibility for their own health and wellness as well as having regular check-ups as advised) were adopted. The target of screening and intervening with 20% of the target population in each zone is practical and doable.

This program will be interfaced with the Community Health Workers (CHW) network initiative which is also being supported by AusAID through the FHSSP. The CHWs are being trained to be wellness advocates in the community. They are being empowered to promote health and wellness at community level addressing various cohorts of people – trying to keep the healthy, healthy! The newly developed reporting system for public health information (PHIS) also provides for reporting all new cases of diabetes and hypertension picked up during the NCD Tool Kit screening as well as the total number of clients over the age of 30 years screened in each zone. To supplement this screening program, the zone and district nurses are also encouraged to conduct the NCD TKSI programs

at workplaces, schools, faith-based organizations, women's groups, etc. This will not only increase the catchment of adults screened for NCDs but will also increase awareness on healthy living and taking responsibility for one's own health.

The Dieticians group also made a commitment to tackle NCDs and is planning to launch their own tool kit for screening in April 2013. Their major input to wellness and NCD prevention is in the field of weight control, screening and prevention of anemia and cholesterol monitoring. Initially their target population is the same as for the community health nurses, however, expanding into monitoring childhood anemia and obesity is definitely on their agenda. Another new initiative that the dieticians will be introducing soon is the 'cash calories' concept developed by an Australian healthy lifestyle volunteer. This will make people think of the number of calories they are consuming as compared to what they actually need for healthy living.

Wellness is a state that we need to maintain and these initiatives will definitely contribute towards saving lives and promoting health.

if you can!!
ENJOY
some
REGULAR
VIGOROUS -
INTENSITY ACTIVITY
for extra health
and fitness benefits

Healthy Settings Initiative - A Report from the Northern Division, Fiji

Peni Veilave^{1*}

INTRODUCTION

“SETTINGS is defined as a place where people live, work, learn, play and socialise”

In the Pacific Health Ministers meeting in Yanuca Island Fiji in 1995, the Health Ministers agreed on formulating a framework to adapt the 1987 healthy city initiatives for the pacific island countries, and the adaptation process resulted in the formulation and endorsement of the healthy islands initiatives under the ‘Yanuca Island Declaration’.

The Yanuca Island vision has been hailed as ‘a truly ecological model of health promotion and its inspiring visions resemble an idyllic image of uniqueness for the island nations:

Healthy islands should be places where:

- Children are nurtured in body and mind
- Environments invite learning and leisure
- People work and age with dignity
- Ecological balance is a source of pride
- The ocean/rivers which sustains us is protected

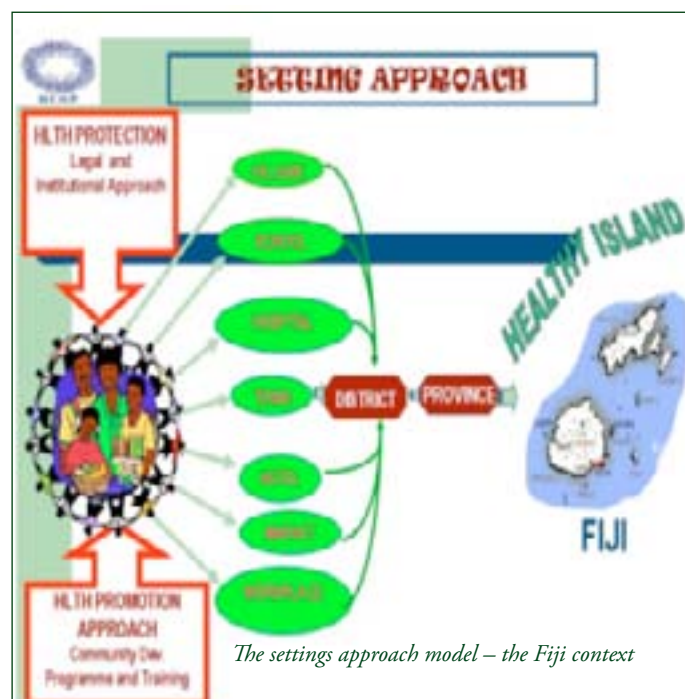
The strategy for implementing the healthy islands initiative was discussed in the ministers bi-yearly meeting two years later in Rarotonga Cook Islands, which saw the introduction of the **settings approach** as the strategy for implementing the healthy islands initiative.

The image of Healthy Islands has proved to be a powerful drive for change and the Rarotonga strategy of the settings approach was developed in an ideal time considering the double burden of NCD within the island nations and the reemergence of some long gone infectious disease.

A shift away from the disease based approach to health promotion makes the Rarotonga strategy an effective intervention measure in addressing health and all its social determinants through the development of national policies, creation of supportive environment, capacity building to strengthen community action, improving personal knowledge and skills and where ever possible, the re-orientation of services.

THE SETTINGS APPROACH - FIJI PROGRESS

In our urge to see that we realigned ourselves to the regional changes, much has come through in Fiji’s effort in implementing the healthy islands initiative through the settings approach as a national program, and that has resulted in the establishments of settings in **workplaces, schools, villages, settlements** and etc around Fiji.



Health improvement is one of the Country’s key objectives and is strongly linked to social and economic advancement. The majority of Fiji’s most prevalent health problems are closely related to lifestyle and behavior patterns which are amendable to change through a well targeted and a well coordinated preventative and educational approach.

Majority of complications in clinical settings now have their roots as behavior and socio-economic factors that are deeply embedded within their social setup. What makes it a challenge though is that these people are returned to that same environment upon discharged from clinical settings.

This makes it even more necessary for a stronger approach away from the clinical and disease based setup, bringing intervention down to villages, schools, workplaces and towns around Fiji.

1. Wellness Centre, Ministry of Health, Fiji

* Address for Correspondence: pveilave@yahoo.com

The framing of policy environment with government and cooperate organizations to set the platform of collaboration between both parties was the initial steps for such process, and the hard work over the years that has seen the development of partnership through those agreements is acknowledged.

SETTINGS PROGRESS – NORTHERN DIVISION

Together with divisional and sub divisional government teams, the process of identifying model settings as pilot settings for the country and for each divisions began. The process faced a major setback in the central and the western division with the two floods that devastated the two divisions on the first quarter of 2011.

Leaving the two divisions to concentrate on the recovery process, the project was shifted over to the northern division with full support from the Divisional Medical Officer Northern and the government heads in the northern division.

With continued dialogue and communications, six (6) villages and twenty (20) schools were identified and 5 physical activity centres.

Each sub divisions and medical areas continue to liaise with the National Wellness Centre in the process of settings development. A three days training was done for each of the settings that resulted in the development of village action plans that addresses specific issues identified in the profiling phase, and most importantly capturing what the area medical teams felt that should be addressed considering the current trend of NCD in the country.

Table 1: The villages are as stated below:

VILLAGE	MEDICAL AREA	SUB DIVISION
Naqumu	Naduri	Macuata
Buavou	Seaqaqa	Macuata
Nabiti	Dreketi	Macuata
Nakawakawa	Wainunu	Nabouwalu
Valeni	Nakorovatu	Savusavu
Natuvu	Nakorovatu	Savusavu

Together with the divisional education office northern, the selection of model schools was done so as to have all school clusters represented with each medical sub divisions.

Table 2: The Identified Pilot Schools:

MACUATA	CAKAUDROVE
Navoalevu Primary School(Dogotuki)	Qalitu Primary School(Wailevu)
Navai Primary School(Naduri)	Nasinu Primary School(Saqani)
Qelemumu Primary School(Qelemumu)	St. Bedes College(Savusavu)
Maramarua Primary School(Dreketi)	Kama District School(Tukavesi)
St. Mary's Primary School(Labasa)	St. Andrews Primary School(Savusavu)
Bua Primary School(Bua)	Khamendra Central School(Savusavu)
Holy Family Primary School(Labasa)	Nasavusavu District School(Savusavu)
Solevu Primary School(Bu)	Wailevu Primary School(Drekeniwai)
Nabala Secondary School(Seaqaqa)	Nasavusavu Public School(Savusavu)
Kubulau District School(Bua)	Batirilagi Primary School(Dreketi)

Healthy Settings as a concept is totally new to the education ministry and the teachers, and we conducted two (2) divisional trainings for the northern division to capacity built teachers and school managers on the concept. One was conducted in Labasa for the Macuata education sector and the second in Savusavu for the Cakaudrove education sector.

The trainings also terminated with the development of school action plans and the seed funds proposals for each individual school. Five (5) physical activity centres and workplaces were also identified as lead centres for physical activity programs throughout the entire sub divisions as shown in Table 3.

*SETTINGS IS
A PLACE
WHERE PEOPLE
LIVE,
WORK,
LEARN,
PLAY
&
SOCIALISE*

Table 3: The Identified Physical Activity Centers

Labasa Hospital
Seaqaqa Health Centre
Nabouwalu Hospital
Savusavu Hospital
Taveuni Hospital

Assessment Criteria for Setting Awards

In the process of establishing an assessment criteria, it was ensured that a workable process that would specifically monitor the settings progress and how the settings have evolved through the phases of settings development and what the process anticipates for a settings to achieve through its empowerment and capacity building process was put in place in the context of Fiji.

It streamlined the evaluation process to identify specifically process and impact indicators that was achievable at the time of the review.

The tool could be used in two phases:

1. To determine the success rate of the overall Settings.

The success rate of the overall settings could be determined by a number of themes depending on their implementation level eg: (% poor, % good, % very good, % excellent). The highest score for settings to achieve is 48 (**that is if it's marked 4 in all the indicators**). The lowest is 12 (**marked 1 in all indicators**). Then the ratings would be: 0 – 12 poor, 13 – 24 good, 25 – 36 very good, 37 – 48 excellent.

2. Identify and single out specific settings that are eligible for awards.

This is done specifically by following the table set out below. Circle number to the immediate right of each indicator to determine score and then calculate total score by phase before adding the phases score up to determine final score.

Assessment Tool for Healthy Village

PHASE 1: INITIATION					Total score per phase	Final Score
Initial request for the program was done by the villagers (4 if yes)	1	2	3	4		
Whole village mobilised for the initial meeting (4 if yes)	1	2	3	4		
Whole village agree in principle to embrace the program (4 if yes)	1	2	3	4		
Formulation planning (Profiling, training, etc.) was done collectively as a village (4 if yes)	1	2	3	4		
PHASE 2: IMPLEMENTATION					Total score per phase	
Village profile developed and copy in place (4 if yes)	1	2	3	4		
Training done, village action plan (AP) developed and copy in place (4 if yes)	1	2	3	4		
Some of the issues in the action plan implemented	1	2	3	4		
Village declared a tobacco free village / Corner / Hall	1	2	3	4		
PHASE 3: INSTITUTIONALISATION					Total score per phase	
A committee in place to be responsible for the settings progress	1	2	3	4		
Committee active and functional	1	2	3	4		
Initiative and plan embraced as the village development guide	1	2	3	4		
Committee working closely with other government departments / NGO	1	2	3	4		

Assessment Tool for Healthy Schools

PHASE 1: INITIATION				
Initial request for the program was done by the school (4 if yes)	1	2	3	4
Whole school stakeholders mobilised for the said	1	2	3	4
Advocacy workshop on HPS conducted for stakeholders	1	2	3	4
School stakeholders agree in principle to embrace the program	1	2	3	4
PHASE 2: IMPLEMENTATION				
HPS plan developed, endorsed and submitted	1	2	3	4
HPS budget proposal developed, endorsed and submitted	1	2	3	4
Some of the issues in the HPS plan addressed	1	2	3	4
School declared tobacco free and drug free	1	2	3	4
PHASE 3: INSTITUTIONALISATION				
Number of policy developed	1	2	3	4
Improvement to school infrastructure	1	2	3	4
No. of introduced school based education (y/y, A/L, Scaffolding, etc.)	1	2	3	4
How have school measure school health programs	1	2	3	4

Assessment Process

Two teams were mobilised for this process that includes members from both the national headquarters and the divisional team northern. Teams visited school on site and interview teachers and managements on the progress of their action plans and seed fund proposals.

The same teams visited villages and interviewed TuraganiKoro's and Chiefs on the progress of the healthy village program.

It's the first ever assessment for awards done in Fiji and the Pacific, and there was a lot of lessons learnt from the process that should be able to give a better understanding of what we need to do the next time around should that be improved.

It is quite an expensive exercise, and it can be very tiring if done by one or two officers alone, and the team should increase should the number of settings to be assessed increase.

AWARDS NIGHT – HOT SPRINGS HOTEL

The award night was set for the evening of the 11th of December 2012, with invitations extended to all school managements, teachers, Turaga ni Koro's, village Chiefs, the Provincial Council and the Divisional Education Officers in the northern division and the pilot settings.

Invited to be present as well were all medical sub divisional heads in the north, and the whole divisional team at the northern division medical headquarter.

The following are the *recognition awards recipients* for the Health Promoting School Category:

Wailevu Primary School
Kama District School
Nasinu Primary School
Nasavusavu Public School

Khamendra Central School
 Nasavusavu District School
 St. Bedes College
 St. Andrews Primary School
 Qalitu District School
 Kubulau District School
 Solevu Primary School
 Bua Primary School
 Maramarua Primary School
 Navai Primary School
 Nabala Secondary School
 St. Mary's Primary School
 Holy Family Primary School
 Qelemumu Primary School
 Navoalevu Primary School

The following are the six villages that received the ***recognition awards for the Health Promoting Village category:***

Buavou village
 Naqumu village
 Nabiti village
 Nakawakawa village
 Valeni village
 Natuvu village

The award for the ***Health Promoting Workplace category*** was given to the ***most physically active sub division in the whole of the Northern division for 2012.*** That award was given to the Savusavu Medical Sub division (Savusavu Hospital). ***Savusavu Hospital - winner in the workplace category***

The award was a success, and most of the school managements and village representatives present thoroughly enjoyed the evening and were honoured to have received something to mark their effort towards building a better life.

CONCLUSION

The success of such a program is not so much on how well it begins, but how can that program be sustained overtime. Initiation of the program has been launched, and now all is left with the medical sub-division, health centres and nursing stations to continue to liaise with the settings for the continuation of their program.

Nothing is impossible, Fiji will definitely be living in wellness and prosperity, if we continue to infiltrate our education system with the right message and the right behaviour, develop a winning attitude among our children, and we will reverse the NCD trend in Fiji.

ACKNOWLEDGEMENT

The team would like to take this opportunity to extend its heartfelt gratitude to the following people whose support and encouragement has made the implementation of the award a success:

- National Advisor – NCD
- National Advisor – Health Promotion
- Divisional Medical Officer Northern Division
- Divisional Team North
- Sub Divisional Teams in Macuata, Seaqaqa, Dreketi, Nabouwalu, Wainunu, Wainikoro, Savusavu, Saqani, Tukavesi, Nakorovatu and Wailevu
- The World Health Organisation

*BE ACTIVE
 EVERYDAY
 IN
 AS MANY WAYS
 AS
 YOU CAN,
 YOUR WAY.*

DEVELOPING COMMUNITY SETTINGS - An “Island Approach Model at Moturiki, Fiji.

P Veilave¹

Keywords: Settings, Islands Development

ABSTRACT

In the Pacific Health Ministers meeting in Yanuca Island Fiji in 1995, the Health Ministers agreed on formulating a framework to adapt the 1987 healthy city initiatives for the pacific island countries, and the adaptation process resulted in the formulation and endorsement of the healthy islands initiatives under the ‘Yanuca Island Declaration’. The strategy for implementing the healthy islands initiative was discussed in the ministers bi-yearly meeting two years later in Rarotonga Cook Islands, which saw the introduction of the settings approach. Foiled in that meeting as well is the healthy islands working definitions, the visions and the core elements of healthy islands.

In the urge to see that Fiji realigns herself to the global and regional changes, much has come through in Fiji’s effort to implement the healthy islands initiative through the settings approach as a national program, and that has resulted in the establishments of settings in workplaces, schools, villages and settlements around Fiji.

While the strategy might be workable in some context, the Lomaiviti Provincial Council saw the need of amending that to an “**ISLAND APPROACH**”, one which is much suited to their locality, considering the distributions of the islands within the Lomaiviti group. *Moturiki island* was chosen as a pilot and a model for the approach, and this report discusses the processes taken and captures a few highlights in the course of implementation.

The approach is workable, and has seen a general increase and entire uplift of the island people’s expectations on what the initiatives has to offer. The development of social projects like community halls, water projects, flush toilets and etc had a significant impact on the community, and has to an extent act as a catalyst in bringing people together for this course.

While this report focuses specifically in addressing the immediate impacts on the entire island, a thorough and precise assessment should be done five to seven years down the line to evaluate the *island approach’s* final outcome on the reduction in communicable diseases, reduction in drowning incidents, effectiveness of the Oral Health 5:20 campaign and whether physical activity and local food consumption has increased that should subsequently result in a much controlled NCD rate in Moturiki Island.

The report highlights a few areas of improvements if the approach is to be perfected, and it humbly draws the readers attention to the few recommendations listed down at the end of this report.

1. Wellness Centre, Ministry of Health, Fiji

* Address for Correspondence: pveilave@yahoo.com

INTRODUCTION

Developed under the policy framework of the Healthy City Movement of 1987, the Healthy Islands initiatives is a life cycle-oriented model that centers on the concepts of health promotion and health protection, with particular emphasis on wellness program, positive health & participation and has now been increasingly used as the approach and model for community interventions within the South Pacific region (Han, 1996).

The Ministers of Health in the Pacific Island countries espoused the Yanuca Island Declaration, a vision of health for the island nations that sought to develop an adaptation program for their countries the ideals of New Horizons in Health. The Yanuca Island vision has been hailed as 'a truly ecological model of health promotion' (Nutbeam, 1996), and its inspiring visions resemble an idyllic image of

uniqueness:

Healthy islands should be places where:

- children are nurtured in body and mind;
- environments invite learning and leisure;
- people work and age with dignity;
- ecological balance is a source of pride.
- the ocean/rivers which sustains us is protected

The image of Healthy Islands has proved to be a powerful drive for change and the Rarotonga strategy of a "SETTINGS APPROACH" was developed in an ideal time considering the double burden of NCD within the island nations and the reemergence of some long gone infectious disease.

A shift away from the disease based approach to health promotion makes the Rarotonga strategy an effective intervention measure in addressing health and all its social determinants through the development of national policies, creation of supportive environment, capacity building to strengthen community action, improving personal knowledge and skills and where ever possible, the re-orientation of services.

The concept of Healthy Islands is best viewed as a Work in Progress. The Healthy Islands concept involves continuously identifying and resolving priority issues related to health, development and well-being by advocating, facilitating and enabling these issues to be addressed in partnerships among communities, organizations and agencies at local, national and regional levels.'

HEALTHY ISLANDS – THE FIJI PROGRESS.

While the Visions and the Healthy Islands Core Elements are quite consistent through out the island nations, local adaptation of the concept varies depending on its individual context.

Building on the Healthy Islands theme word "COLLABORATION", and in view of the increasing NCD rate in the country, the Ministry of Health Fiji initiated discussions with government, private sectors and local agencies in an attempt of forging partnership for a unifying effort in combating the disease.

After months of negotiation and compromising, the Healthy Islands initiative of the Ministry of Health Fiji was finally merged with a community capacity building program for the Ministry of Provincial Development Fiji and the Fijian Affairs Board called the Participatory Project Cycle Management (PPCM) in 2007.

This saw the birth of what is now called "TOWARDS A HEALTHY FIJI", an Integrated Community development (ICD) program that focus specifically in developing settings through holistic development, and has now slowly expand to cover other areas of interest like the Education sector, Agriculture, Women's, National Planning and etc.

PROCESS / METHODS

Community development is a structured intervention that gives communities greater control over the conditions that affect their lives. This does not solve all the problems faced by the local communities, but it does build up confidence to tackle such problems as effectively as any local action can.

Community development is a skilled process and part of its approach is the belief that communities cannot be helped unless they themselves agree to this process.

Community development has to look both ways, not only at how the community is working at the grassroots, but also at how responsive key institutions are to the needs of the local communities.

The development of the 6 steps cyclic process for the ICD program centers specifically at capacity building the local communities for project ownership, and is designed in such way that is culturally sensitive.

THE ICD PROCESS – 6 STEPS FOR SETTINGS DEVELOPMENT



6 steps process for developing setting under the Integrated Community Development (ICD) program “Towards a Healthy Fiji”

Step 1 Profiling

Profiling is a baseline survey and is the initial planning step in almost all program management cycle. It allows project stakeholders to identify local problems and challenges, strengths and opportunities and map out project goals and objectives from the data collected and determining project viabilities.

This data is also used as an evaluation tool, allowing project stakeholders to refer back to for a comparison analysis three to four years down the project lifespan

Profiling is the most challenging phase in the case of Fiji, and requires an absolute commitment from our partners, especially with the Itaukei Affairs, Ministry of Provincial Development, the Agricultural sector, etc.

Step 2 Vision

Phases two, three and four come in as part of the community capacity building training in settings.

This stage allows participants to come up with creative imagination of what they want their settings to be at the end of the project lifespan. It capitalizes on the power of positive imagination within a communal setup, bubbling up into a desire for change that to some extent can be a wonderful catalyst for change.

Step 3 Problem Analysis and Prioritization

The training package is designed in such way that allows maximum participation from participants, imparting project ownership and control at the earliest.

This phase gives participants a wonderful opportunity to reflect back on some of the problems that are captured during the profiling phase.

Not only do participants analyze and identify root causes of problems, this phase gives them an opportune time to prioritize those problems before the next phase.

Step 4 Formulation of Local Development Plans

This phase comes in line with the Fijian Government Development Framework under Pillar 7 in the Peoples Charter for Change, Peace & Progress.

It allows participants to map out as a setting their local development plan when reflecting back on the results of the two previous phases. The order of prioritization set out in phase three becomes the order each problem appears on the development plan.

Step 5 Implementation

The most important phase in the whole of the program management cycle.

Implementation of the local development plans and the activities in it can come by way of community projects funded through the normal governmental funding machinery, or, a collaborative effort addressing these problems communally, or, through an external funder.

Step 6 Monitoring and Evaluation

Observing the impacts and outcomes through the various evaluation tools should be a great opportunity to reflect back on the success of the project, resource utilization, effectiveness of the intervention and highlighting areas of improvements for future intervention measures.

A good comparison analysis on the result of the evaluation with the initial data collected during the Profiling phase should be a good measure of assessing as to how far the project has achieved in terms of project impacts and outcomes.

A management guru once said “human beings are wanting beings, they always want and want more, and what they want depends on what they already have”.

The six steps process of developing a settings provides a good platform for community development, it allows maximum opportunity of participation and the order in which the problems and challenges appears on the development plan as they see fit during the action planning phase will very much dictate the order of implementations, and then the projects rolls on one after another in the same order.

How ever, amendments to the above can still be made from time to time as the settings see fit.

INTEGRATED COMMUNITY DEVELOPMENT APPROACH

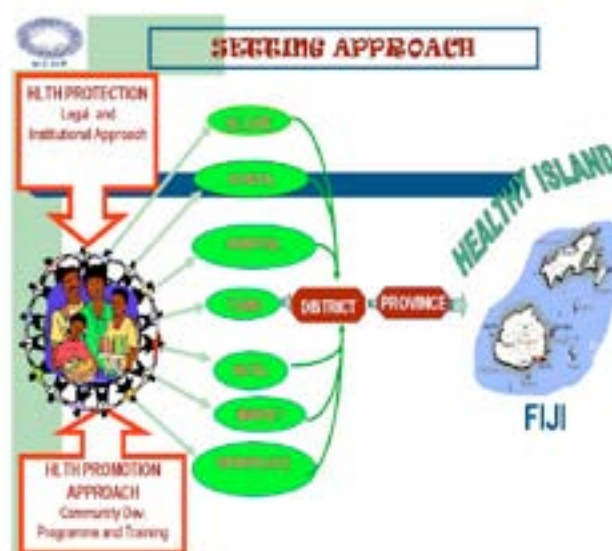
Health improvement is one of the Country's key objectives and is strongly linked to social and economic advancement. The majority of Fiji's most prevalent health problems are closely related to lifestyle and behavior patterns which are amendable to change through a well targeted and a well coordinated preventative and educational approach.

Majority of complications in clinical settings now have their roots as behavior and socio-economic factors that are deeply embedded within their social setup. What makes it a challenge though is that these people are returned to that same environment upon discharged.

This makes it even more necessary for a stronger approach away from the clinical and disease based intervention to a settings approach as under the "Yanuca Island Declaration" of 1995 and the "Rarotonga Agreement" of 1997.

While most of the compromises were made leading up to the integration process in terms of the process and the methods used, the few government ministries that were key players to that progress unanimously agreed that the program to embrace the settings approach of the Rarotonga Agreement as the approach for the ICD program.

ICD Approach – The Fiji Context Settings



Settings Approach, adopted as the approach for settings development in Fiji under the Integrated Community Development Program

Health Promotion they say is the process of enabling individuals to increase control over the things that ultimately determines their health.

Green and Anderson spell it out as any combination of health education and related organizational, economic and environmental supports for the behavior of individuals, groups, or communities conducive to health. (Green and Anderson, 1986)

It's not the work of any Ministry alone, and definitely calls for a coordinated effort through Government Ministries, Non Governmental Organizations and other stakeholders including the Communities if these are to be addressed effectively.

LOMAIVITI – AN "ISLAND APPROACH"

An "island approach" is a strategy developed out of the healthy islands "setting approach", and still holds as its principle elements the healthy islands visions and the healthy islands core elements and that includes the revitalization of Primary Health Care.

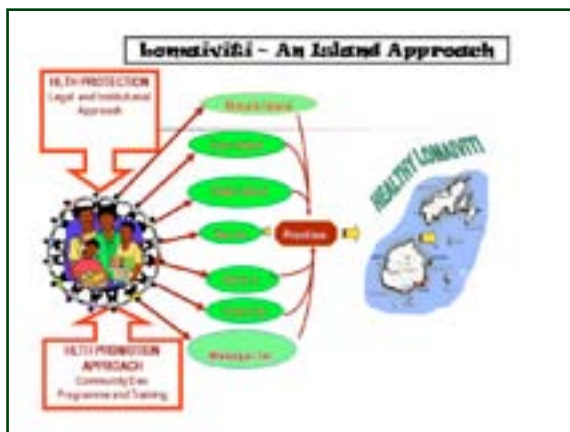
The island approach focuses on developing the whole island as an entry point for:

1. disease control
2. promotion of healthy behaviors and lifestyle
3. promotion of healthy environments.

The strategy was developed in view of the distributions of the islands in the Fiji group and how accessible the islands are to developments, health care, technology, business, education, cooperate services and etc, and how this approach can initiate developments in these islands in a holistic context.

It focuses in mobilizing villages, schools, settlements and kindergartens in an island setup for major development initiatives in terms of healthy behaviors and healthy lifestyle, seeing the above as an entry point for disease control and maintaining a healthy and sustainable environment.

With the increasing NCD rate in Fiji, the island approach focused specifically in addressing the NCD risk factors with the younger age category, diverting its attention to the kindergartens and the primary school children's, and how best it can work with the community in reducing accidents to a negligible level.



Following the massive consultation and national advocacy on the approach with the Provincial Administrators and Provincial Councils, the Lomaiviti Provincial Council in one of its meeting endorsed in principal to embrace the Integrated Community Development (ICD) program as its development arm in the province.

The Lomaiviti group is made up of 7 islands scattered around the Bligh waters in the middle of the Fiji group. Central to the whole Lomaiviti group is Ovalau Island, which is also the old capital of Fiji and currently serves as the main centre for the Province of Lomaiviti.

Streamlining approaches and processes to reflect the needs and the context on the ground is of absolute necessary in any community development program, and with the Lomaiviti Provincial Council embracing the "Island Approach" as its integrated community

development strategy makes it more easy and realistic in view of the distributions of the islands within the Lomaiviti group.

MOTURIKI – AN “ISLAND APPROACH” MODEL

Moturiki is one of the islands in the Lomaiviti group, and has a landmass of approximately 10.4 square kil meters. The total population is 912, residing in the ten villages of Moturiki. There are two primary schools with a total roll of 208. Boat is the only means of transportation around the island, and neighboring villages use existing tracts inland as the means of excess to other villages, the two schools and the only nursing station in the island.

Development progress is a little bit sluggish in the island and is mainly due to its location. Beside Moturiki are two tourists' resorts, Caqalai and Leleuvia backpacker's resorts. While a few individuals were fortunate enough to find employment at the backpackers, much of the island's livelihood is sustained through subsistence farming and the use of marine resources for their daily consumption.

The trend of Non Communicable Disease in Fiji is alarming, and has left even those at the rural vulnerable of its vicious effects. Moturiki has also experienced a slow increase in NCD, but the percentage is quite alarming considering the total population count.

Hypertension:	2.96%
Diabetes(1&2)	0.54%
Asthma	0.98%
Rheumatic Heart Disease	0.11%
Stroke	0.88%
T.B	0.22%
Hypertension/Diabetic	0.32%

The recognition that health is created in the settings of everyday life – in rural villages, in schools, work-places, communities and families – rather than in the health sector, has made this approach appropriate now if NCD is to be controlled and prevented from the upcoming generations, and that requires a major investment especially in addressing lifestyle now if the country's health services are not to be overwhelmed in future years by lifestyle related diseases.

IMPLEMENTATIONS OF DEVELOPMENT PLANS

Following the decision of the Lomaiviti Provincial Council to embrace the ICD as its development arm within the province, the Integrated Community Development Task Force mobilize its relevant partners within the Province for a massive profiling exercise in the whole island of Moturiki.

Much of what comes afterwards merely follows the normal settings development process, and the community capacity building trainings that terminates with the formulation of each village's development plans.

Implementing the activities in the development plans becomes the villagers greatest challenge in view of the island location from the main centre, and more so with the socio-economic status of the island. While the island people have identified local resources that can be utilized to address specific issues in the development plans, they lack technical expertise for the actual implementation.

THINK PACIFIC – A DEVELOPMENT PARTNER

In view of the issues above and the fact that the world over has gone through some difficult times during the recent global financial crisis which has had its burden even on the grassroots, the ICD task force mobilize a United Kingdom based NGO that employs selected individuals that are currently, or, have undergone skilled and technical based program at the Leads University in England.

Known as the “THINK PACIFIC”, selected individuals comes in as a group with varied backgrounds and to be part of an expedition team to Moturiki island, specifically with the sole purpose of providing technical advice and support on issues that are to be addressed in the development plans.

Each team comprised of eighteen (18) individuals with equal gender distribution in the team. They stay for a period of 5 to 6 weeks in one village, providing technical expertise in addressing some of the issues in the village development plan and then depart back to the United Kingdom before the next expedition team comes for the next village.

After the signing of the Memorandum of Understanding between the Lomaiviti Provincial Council and “Think Pacific”, the expedition team started to arrive.

For every team there was a briefing at the Caqalai resort by the ICD task force together with a general description of their village before their departure for the 4 – 6 weeks long expedition.

Much of what they do follows priority issues that are addressed in the village development plans, and that also includes the development of most projects along this line:

1. promotion of healthy environments
2. promotion of healthy behaviors and lifestyle
3. an island as a bases for disease control

PROJECT IMPLEMENTATION

Project was implemented with maximum support from the communities, and how their local resources can be utilized to see the best of output at the end of the day.

The following were some of the projects implemented as Moturiki Island strives towards attaining a Healthy Moturiki Island through the “island approach”.

1. Promotion of a healthy environment

- The development of healthy and supportive environments to limit chances of accidents within a communal setup at Daku village in 2009.
- The adoption of strategies such as composting, waste segregation, burnin & burying ensure a healthy and sustainable environment at Naicabecabe District School in 2010.
- The development of social projects like community halls which became a catalyst in bringing communities together at Nasauvuki village in 2010.
- Installation of proper sanitary facilities and bath as a means of suppressing re- emergence of some long gone infectious disease at Navuti village in 2010.
- Installation of tap water to provide adequate wholesome drinking water at Savuna in 2010.
- Supporting village and community needs was adopted as a means of community development at Uluibau in 2010.

The above projects were implemented together with the communities, and there sources were those that existed in the island but mobilized to be used during the implementation phase. While manpower existed locally, technical expertise for the installation of most of the projects was provided through the development partners.

2. Promotion of healthy behaviours and lifestyle

Changing behavior was always a challenge, and the island approach realizes the fact that if older population cannot be changed to take the necessary steps towards the promotion of healthy behaviour then perhaps addressing these issues at the earliest with the lower age category was seen as the best way forward in order to go a long way in as far as lifestyle and behavior change is concerned.

With the notion on the current rate of NCD in Fiji and the possible four risk factors to that increase (smoking, nutrition, alcohol & physical inactivity) at the back of the implementers mind, strategies as to what will work in seeing that appropriate knowledge and expected behaviour of addressing the risk factors to be imparted to kindergarten and primary school children during the 5 weeks on the island were planned and mapped out accordingly. It was ensured that intervention matters adopted also involved certain fun activities to make the activities more enjoyable and appealing to the kids, teachers and community as a whole. Activities involved various forms of physical activities and sports trainings such as hockey, rugby, cricket, netball, football, swimming, first aid trainings both on land and at sea oral health campaigns introducing the 5:20 approach and promotion of use of locally grown foods at Uluibau, Savuna and Navuti Kindergartens, Naicabecabe, Niubasaga Primary schools and Nasauvuki village respectively.

3. An island as a basis for Disease Control

The team also promoted how the island can become a basis or means for disease control, through construction of a village dispensary at Daku Village in 2009.

Health Care Facility

Existing on the island as the only health care facility is a nursing station with one nurse, which serves the whole Moturiki island and a population of nine hundred and twelve (912). Quarterly visits from the medical team in Levuka, Ovalau complements the enormous effort of the only nurse in the island.

Much of what she has to do is addressed locally by the village community health workers who are employed currently on a voluntary basis. It's only when there are serious cases that community health workers gets to accompany patients over to the island nursing station, and the case is even further referred to the Levuka hospital by the island nurse should that be necessary.

The island nurse visits two villages in a week, before she makes a complete visit of the whole island in a month. Much of that is to do with MCH and family planning visits, dispensing essential drugs, Immunization against major infectious disease, addressing basic sanitation issues and complementing the work of community health workers on the treatment of basic and common injuries and diseases in village dispensaries.

CONCLUSION

A Chinese philosopher once said,

“Go to the people

Live with them

Learn from them

Love them

Start with what they know

Built on what they have

For with the Best Leaders

When the work is done

The task is accomplished

The people will say

WE HAVE DONE THIS OURSELVES”

A sense of ownership at the end is crucial in sustaining the project and the island approach is vigilant in seeing that the aspirations of the community is addressed from the initial stage.

While the team felt that there are numerous benefits of the island approach to the island as a whole, it anticipates the long term outcome of these intervention measures, and prays for the governments involvement in addressing specific issues like income generating projects and so much more that the approach fails to address, but is already incorporated in each village development plan.

RECOMMENDATIONS

1. Mobilize support to look at complementing the work of the ICD in funding income generating projects that are outlined in development plans
2. A letter of undertaking from government to the Think Pacific acknowledging their contribution to community development in Fiji
3. A review of the structure of the current ICD setup for a more strengthened implementation process and commitments from stakeholders

4. Implementation and monetary assistance of outlined activities in the current development plans should follow through the normal governmental funding machinery.
5. Consider streamlining the current ICD program with the Integrated Development Framework under Pillar 7 of the Peoples Charter for Change and Progress.
6. A review of the existing curriculum in the Ministry of Education for a more strengthened Physical Education class that enhance behaviour change and also builds the momentum in the control of NCD.
7. Strengthen support on implementation of the “Canteen Guidelines” in schools to reduce sale and consumption of unhealthy food items to children.
8. Establishment of a Community Development Forum that allows all community developers, NGO's, Government Departments, etc to share ideas and strategies for community development in Fiji.
9. A quarterly report submitted every quarter from the Provincial Office Lomaiviti on the progress of the “Island Approach” progress in Moturiki island.
10. A similar research to be done five to seven years from now (quantitative & qualitative) to substantiate the final outcome of the intervention on the population.

REFERENCES:

1. G Galea (2000) *Healthy Islands in the Western Pacific—international settings development. Healthy islands fiji, public health approach. (Full Text)*
<http://heapro.oxfordjournals.org/content/15/2/169.full>
2. Nutbeam, D. (1996) *Healthy Islands—a truly ecological model of health promotion. Health Promotion International, 11, 263–264. (Full Text)* Moturiki - Wikipedia, the free encyclopedia
3. *Moturiki Island in Fiji's Lomaiviti Group.*
<http://en.wikipedia.org/wiki/Moturiki>
4. NB: information provided by Staff Nurse Tesa of Moturiki Nursing Station.
5. Papua New Guinea Healthy Islands. “An Approach to build healthy Community and Populations”. (2001) .National Department of Health, Health Promotion Branch, Port Moresby, Papua New Guinea.
6. Fiji Health- Towards Healthy Island. “Health Promotion Community Project”. (1998). National Centre for Health Promotion, Ministry of Health, Suva, Fiji.

*If you are not physically active(moving
much) it's not too late*

to START NOW

*DO REGULAR PHYSICAL ACTIVITY
AND REDUCE SEDENTARY
ACTIVITIES*

Diabetic Foot Care Training Workshop Northern Division, Labasa

Brigid Buick^{1*}

Background

It is estimated that every year more than 1.3 million people worldwide undergo amputation as a result of type II diabetes. Fiji has a disproportionately large prevalence of people living with diabetes. Accordingly there is a high incidence of lower limb amputations in Fiji due to diabetic foot complications. A diabetic foot ulcer precedes the majority of amputations. These can be prevented by good self-care and early detection and intervention of foot complications.

As the largest group of primary health care providers it is essential that nurses are competent and confident in assessment of the diabetic foot so that they are able to detect potential issues early and intervene accordingly. One of the most important roles that the nurse fulfils is that of community health educator. It is essential that people with diabetes understand the importance of good foot care and the principles that guide this.

The Diabetic Foot Care Training Workshop is a direct response to the large number of lower limb amputations in Fiji associated with diabetes and is in keeping with the Ministry of Health NCD Prevention and Control Strategic Plan 2010-2014. It is believed that through training Nurses in the early detection and prevention of diabetic foot complications that the number of amputations will be reduced.

Objectives

1. Nurses to be confident in early detection and intervention of diabetic foot complications.
2. Nurses to demonstrate a good understanding of the risk factors leading to diabetic foot ulcer.
3. Nurses to be familiar with and confident in using new diabetic foot assessment form.
4. Nurses to be confident and competent in patient education regarding diabetic foot self care.
5. Nurses to feel that they are valued and important members of the multidisciplinary team addressing diabetic foot care.

Expected Outcomes

Short Term: Nurses to be competent and confident in conducting a diabetic foot assessment, identifying early signs of complications and providing good patient education regarding self care of feet.

Long Term: Reduction in number of diabetic related amputations by advancing foot care services as per the NCD Strategic Plan 2010-2014.

Content

Description of Activities:

- Importance of nurses' role in prevention of amputations- unique relationship between nurse and community and how this allows for effective patient education
- Refresher overview of Type II Diabetes
- Practical diabetic foot care training
- Introduction to national diabetic foot assessment form
- Opportunity to discuss barriers to effective foot care and associated problem solving
- Effective methods for patient education

Participants

Twenty(20) nurses were invited to attend and sixteen(16) attended, five(5) nurses from Bua, five(5) nurses from Macuata and six(6) nurses from Labasa sub divisions.

Outcomes

Testing Instrument and Scores

Pre and post testing was conducted as shown in figure 1.

Pre-testing scores ranged from 4/10 to 8/10. All 16 participants scored 9/10 or higher on the post-test. A score of 9/10 or higher was required to receive certificate of successful completion.

Self reported confidence level

Pre workshop: 2 nurses reported feeling 'not at all confident', 9 reported feeling 'some what confident', 3 reported being 'confident' and 1 reported 'quite confident'. No participants reported feeling extremely confident in conducting a diabetic foot assessment.

1. Wellness Center, Ministry of Health
* brigidbuick@hotmail.com

Post workshop: 5 nurses were 'extremely confident' in conducting a diabetic foot assessment, 5 reported being 'quite confident' and 5 reported being 'confident'. Confidence levels of all nurses were reported higher post workshop.

Figure 1: Pre and Post Test Questions

1	Diabetic Foot Assessments are only needed when there is a problem with your foot	True / False
3	Diabetic Foot Assessments are not necessary if you control your diabetes.	True / False
3	Diabetic Foot Assessments should be attended at least once year	True / False
4	Diabetic Foot Assessments cannot be attended without a monofilament	True / False
3	Diabetic patient education and counseling should only be done by a medical doctor	True / False
6	Diabetic patient education and counseling should not include the family	True / False
7	Diabetic patient education and counseling needs to include assessment for depression	True / False
8	If just one of the following is present the patient is at high risk of a foot ulcer: loss of sensation, absent pedal pulse, foot deformity, history of previous ulcer or previous amputation.	True / False

9. **One** of the following is the best and should be the first option for preventing a diabetic foot ulcer, circle correct answer:

- Regular exercise
- Daily foot inspections
- Blood glucose control (4-6 mmol/L)
- Appropriate footwear

10 A diabetic patient is at risk of a foot ulcer if:

- They wear appropriate shoes
- They have a callous
- All pedal pulses are present
- They have a healthy diet and exercise regularly
- All of the above

This section is not a test but will give an indication of your exposure to diabetic foot wounds and your level of confidence.

Comprehensive Diabetic Foot Assessment

Please answer the following questions using the corresponding number.

1

2

Not at all confident / Some what confident/

3

4

5

Confident/Quite confident/ Extremely Confident

- How confident are you in conducting a comprehensive diabetic foot assessment?
- How confident are you in deciding who requires a comprehensive diabetic foot assessment?
- How confident are you in taking relevant oral history as part of diabetic foot assessment?
- How confident are you in using a monofilament?

- How confident are you in documenting your diabetic foot assessment?

Wound Care

- How confident do you feel in diabetic foot wound care?
- How often do you attend to a diabetic foot wound?

Daily	Twice Weekly	Weekly
Monthly	Less	

Appendix 2: Agenda

08:00	Registration and Pre-test
08:30	Introduction and Energiser physical activity
08:45-09:30	Diabetes Refresher; power point
09:30-10:30	Diabetic Foot Assessment: Why and How we do it. Power point
10:30-10:50	Morning Tea
10:50-11:00	Practical activity- demonstrate assessment- if not on patient then another RN
11:00-11:30	Diabetic Foot Assessment: Repeat Key messages
11:30-11:30	Preventing Diabetic Foot Ulcers DVD and Discussion
11:30-12:30	Stretchers for Nurses: Patient education
12:30-13:00	Group activity: Scenarios with problem solving
13:00-14:00	Lunch
14:00-14:30	Role of nurse- Unique and privileged place in community, group discussion regarding barriers
14:30-15:00	Re-cap key messages of foot assessment and patient education
15:00-15:15	Foot test
15:15-15:45	Afternoon Tea
15:45-16:00	Final group discussion on take away messages
16:00	Presentation certificates
	End



Published: Fiji Journal of Public Health ISSN: 2307-7484

COPYRIGHT ©