

**THE SIGNIFICANCE OF ORAL HEALTH IN THE LIVES OF
CANTONESE-SPEAKING ELDERLY CHINESE IMMIGRANTS
IN VANCOUVER, CANADA**

by

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ABSTRACT

Purpose: The purpose of my study is to seek information on perceptions of oral health and related healthcare among Chinese elders in Vancouver, and to begin the process of identifying the role of Chinese culture and health-related beliefs in the lives of elderly Chinese immigrants in Canada.

Methods: I conducted open-ended interviews with a purposeful selection of 8 frail Chinese elders in Vancouver's Chinatown, 6 community-based elders who were attending a community centre in East Vancouver, and 2 interviews with Traditional Chinese Medicine (TCM) clinicians working in private practices. Each interview was audio-recorded in Cantonese, summarized in English and transcribed, and the transcription was checked for accuracy against the original tape-recording by another Cantonese speaker. The transcription was analyzed systematically for specific themes based initially on the conceptual framework of the International Classification of Function (WHO, 2001) and current models of oral health (MacEntee, 2006, Brondani, 2007).

Results: The results indicate that the elders are influenced by a mixture of Chinese and Western health-related beliefs and behaviors. They are aware that their current oral health is influenced strongly by the care they received as children or adults before they immigrated to Canada. They all feel that oral health has an important influence on general health, and that general health is more important than appearance. However, some seniors return to Hong Kong, China or their country of origin from Southeast Asia for ongoing dental treatment because they cannot afford dental treatment in Canada. Otherwise, their beliefs and behaviors on the significance of oral health in old age seem to correspond closely to reports from Caucasian elders in the British Commonwealth.

Conclusion: My findings show that the cost of dental services is a major barrier and concern to elderly Chinese immigrants in Vancouver. Nonetheless, the participants had found creative

ways of accessing dental care. Poor oral care in the childhood and youth may have lasting effects on their oral health in later years. A culture of TCM remains influential among some of the participants, but others are more open to Western biomedical knowledge. The effect of Western acculturation seems to occur on a *continuum* with traditional health beliefs based on TCM at one end and Western scientific knowledge at the other end. The participants are in various stages of acculturation of their oral health beliefs and behaviors, with some still largely in the TCM mode and others more accepting of Western concepts. This study may pave the way for further studies about oral health-related belief, behaviors, coping & adapting skills, and acculturation of visible minority seniors in Canada.

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List of Abbreviations

TCM	=	Traditional Chinese Medicine
SDI	=	Socio-dental Indicators
ICIDH	=	International Classification of Impairments, Disabilities and Handicaps
ICF	=	International Classification of Functioning, Disability and Health

Chapter One

Introduction

There is a widespread belief that oral health is neglected and deteriorates with advancing age and this deterioration is a concern to older people who value the importance of health. A recent Canadian study has concluded that general health of elderly Chinese immigrants in Canada is worse than their Caucasian counterparts and they have more challenges accessing healthcare in the community (Lai *et al.*, 2003). Is it likely that oral health of elderly Chinese immigrants follows the same pattern as their general health?

Canada is a multicultural country with 14.3% of the population as minority groups. Chinese residents in Canada, with a population over one million, are the largest visible minority group, and account for 27.8% of all visible minorities in Canada (Statistics Canada 2006). There is relatively little research on the health status of ethnic minorities in Canada which may inhibit planning and implementation of culturally sensitive and appropriate healthcare policies and programs.

Chinese people in Western Canada originally come from different countries and regions, speak many different languages and dialects and have great variations in life expectancies (Anderson *et al.*, 1990). Many Chinese immigrants bring along their oral health beliefs and habits from their childhood or early adulthood in the old country to Canada. For example, many Chinese do not see a dentist at all; many see a dentist only for symptomatic treatment or cure; and many believe that tooth decay / loss or gum disease is inevitable as part of normal aging (Lo *et al.*, 1994, Kwan *et al.*, 1999). My concern here is that because of cultural beliefs and background, many Chinese seniors, especially those who have emigrated recently from Asia,

may be more vulnerable to oral care neglect due to cultural, linguistic and financial barriers. This appears to be the situation in my clinical practice as a dentist and my personal observations suggest that it may be worse for frail seniors living in long-term care facilities who may have additional challenges to overcome. As a result of my twenty three years of private clinical practice in East Vancouver with primarily Asian patients, the following question has emerged about the oral health status and needs of Chinese-Canadian seniors who recently immigrated to Canada: “How can Canadian dental professionals, health care administrators, and government agencies help Chinese seniors improve their oral health status and treatment needs?”

Besides the usual variables such as education, family background, socio-economic status and access challenges, do Chinese culture, traditional health beliefs, coping and adapting abilities, and acculturation play a part in the oral health habits and dental service choices of elderly Chinese immigrants? The answer to this question is lacking. Therefore, the purpose of this study is to explore the effects of Chinese culture, traditional health beliefs and acculturation on the oral health of elderly Chinese immigrants living in Vancouver, Canada.

My research question is:

How do culture, traditional health beliefs, coping and adapting abilities, and acculturation experiences influence and/or affect oral health behaviors and dental care of elderly Chinese immigrants in Canada?

Chapter Two

Literature Review

Oral Health of Chinese Immigrants

A number of recent studies have begun to examine the oral health of Chinese immigrants in the host countries. Most of the studies about oral health and Chinese immigrant populations in the English-speaking world over the last three decades occurred in the U.S.A., the United Kingdom, and Hong Kong. The U.S. studies were mostly about the oral health status of Chinese, Japanese and Korean Americans who stayed for varying periods in America (Kiyak, 1981 & 1990; Lee & Kiyak, 1992). According to Kiyak (1981), significantly more Pacific-Asian adults, mainly Chinese, than Caucasians believe that old age is the major cause of tooth loss. Recent dental public health studies from the U.K. and from Hong Kong show that Chinese culture and tradition play a role in forming the attitudes, beliefs and perceived treatment needs for dental care among the immigrant Chinese (Lo *et al.*, 1994; Schwarz *et al.*, 1994; Kwan *et al.*, 1998). Kwan *et al* (1999) reported from the U.K. that, regardless of gender, the majority of Chinese residents in England believe that it is natural for people to lose their teeth in old age, and less than half of the subjects were convinced that they would be able to keep their teeth for life. However, such observations may not occur in other immigrant populations coming from different parts of the world.

Older Chinese people tend to have a fatalistic attitude about their oral health and are less likely to attend the dentist (Kwan *et al.*, 1999). Pau *et al* (1997) concluded that the burden of oral conditions among a group of Chinese elders also in the U.K. was substantial and impacted upon their performance in social functions, indicating a definite need for oral health services. Over half of the subjects surveyed thought that “hot air” caused gum disease and bad breath.

["Hot air" (Chinese: "*Re Qi*"), is related to the concept of Yin - Yang and the meridian. *Re* (hot) is the element of fire and *Qi* (air) means energy flow.] Kwan & Williams (1998) found that many older Chinese in the U.K. placed less trust in Caucasian dentists. The seniors perceived that most U.K. dentists possessed adequate technical competence but that they had culturally insensitive patient management and communication skills. Many reported difficulties finding a trustworthy dentist and would prefer to attend a dentist of Chinese origin. Kwan & Holmes (1999) used focus groups to explore the oral health beliefs and attitudes of Chinese youths, adults and seniors in West Yorkshire, England, and found that all groups believed that they were susceptible to dental disease due to a lack of knowledge, and that bleeding gums and total tooth loss were 'normal'. The elderly and adult groups believed in traditional remedies and claimed that preventive oral health measures such as brushing and flossing were ineffective. In essence, Chinese elders in the U.K. lack trust in dentists, and for them the perceived cost of dental services, language difficulties and lack of awareness of basic oral health were the main barriers to accessing dental services.

Hong Kong has at least 97% Chinese residents in its population; and investigations carried out by Hong Kong dental researchers are a major source of information about oral health of Chinese adults and elders in the English dental literature. In 1984, Hong Kong Adult Oral Health Survey (Lind *et al.*, 1984) interviewed 1239 subjects to find that the majority of them believed that they are susceptible to dental disease due to lack of knowledge about prevention. Although the importance of dental health was acknowledged, many believed that "they could do little to prevent dental disease" and that "old age" is a major cause of tooth loss. Lim *et al.*, (1994) found that traditional Chinese beliefs correlated inversely with behaviors to prevent dental diseases, and with knowledge about oral health among the middle-aged and elderly subjects in Hong Kong. Similarly, a low level of dental awareness and symptomatic use of

dental services among middle-aged and senior groups have been reported from Hong Kong (Kwan *et al.*, 1991; Lo & Schwarz., 1994) and the U.K (Kwan *et al.*, 1991). These researchers did not explain in detail the possible causes of such low level of dental knowledge and utilization of dental services among their subjects.

In Mainland China, only recently have behaviors been considered in oral health studies, thus, relevant information on perceptions about oral health care among adults from China is inadequate (Lin *et al.*, 2001). In 1996-97, a large scale oral epidemiological study was conducted in Southern China. From 8 urban and 8 rural communities in Guangdong Province, about 3,000 middle-aged and elderly adults were interviewed face-to-face. The results showed that almost all of the middle-aged, and more than 90% of the elders with natural teeth reported that they brushed their teeth with toothpaste every day, but awareness about fluoride content was lacking. The respondents had poor oral health knowledge but positive attitudes towards oral health, providing a basis for more community-based oral health education programs, especially targeting adults who are less well educated and have fewer socio-economic advantages (Lin *et al.*, 2001). More recently, another epidemiological study involving 11 provinces in China sampling more than 8,000 middle-aged and elderly adults using self-administered structured questionnaires and clinical examinations was carried out using WHO criteria (Zhu *et al.*, 2005). The researchers found that oral health knowledge of causes and prevention of dental diseases was low with somewhat negative attitudes to prevention observed. However, they did not elaborate what they meant by 'somewhat'. But it can be inferred that many subjects have a 'don't care' or 'not-so-important' attitude about their oral health. They concluded that systematic community-based oral health promotion should be strengthened and preventive-oriented oral health care systems are needed, including promotion of further self-care practices and the use of fluoridated toothpaste (Zhu *et al.*, 2005).

These recent epidemiological studies from China are important because they serve as baseline comparisons of oral health among indigenous Chinese people in China with immigrant populations from the Chinese Diaspora and with mainstream Caucasian populations in the West. It is interesting to note that the Chinese studies agree about the low oral health knowledge of Chinese adults but have conflicting information about the attitudes of Chinese adults towards oral health. The negative attitudes towards oral health prevention in China confirmed by Zhu *et al* (2005) are likely a more accurate assessment of prevailing attitudes in China towards oral health.

In Taiwan, a survey of 288 Chinese adults in the late 1980's reported that the perception on tooth loss was a natural part of aging, and dental and periodontal problems were merely a "symptom of pain", not a disease entity (Hou *et al.*, 1989). Esa *et al.*, (1992) also found that 57% of 328 Chinese antenatal mothers in Malaysia did not think that they could keep their teeth for life, while 40% believed that tooth decay was hereditary and not preventable. Soh *et al.*, (1992) examined the dental state of Singaporean institutionalized elders and found the treatment need for dentures and episodic symptomatic care were very high compared with the rest of the local population and most likely due to relative lack of preventive care.

In Canada, Lai *et al* (2003) conducted on a large, multiple-city survey examining the health and well-being of Chinese elders. They found that over one-third (38.4%) of the 2272 subjects aged 55 and older reported dental problems; and that dental problems ranked as the third most commonly reported health problem, after arthritis and related joint and back problems (48.5%) and high blood pressure (41%). Nearly half (47.9%) of the subjects had used dental services, such as symptomatic control of dental decay and gum disease, in the past year. Further analysis of dentally related data by Lai & Hui (2007) from 1537 of this population of Chinese seniors

found that being older, living in Quebec, and having poorer physical health reduced the probability of using dental services. On the other hand, being an emigrant from Hong Kong, having lived in Canada for a longer period of time, with strong social or family support, and with dental problem, increased the probability of dental service-use. The findings from this Canadian study support the need for considering cultural characteristics and background of immigrants when strengthening oral health promotion (Lai & Hui, 2007). However, the specific beliefs of older immigrants about dental care were not explored in this study.

A study of utilization of dental services by older “mainstream” adults in four Ontario communities by Locker *et al* (1991) found that self-perceived oral health status, low income level, no dental insurance coverage, and elementary educational level are important factors influencing dental visit in the preceding year. MacEntee *et al* (1988 & 1988) studied the oral health concerns of 437 subjects over 75 years old and living independently in the southwest of England. They found that the majority of the subjects had not been to a dentist for at least 10 years and had no wish to see a dentist. Many of them said they had not visited a dentist recently because they had nothing wrong whilst a relatively small (3%) proportion of them identified fear, expense or transport as a barrier to dental services. The results indicate that English seniors about 30 years ago at least had low oral health concerns or expectations. But the existing oral health problems suggested that there is a significant need to develop effective methods of improving oral hygiene in this age group. MacEntee *et al* (1993 & 1998) investigated 255 independent seniors over 75 years of age in British Columbia and found that the age and gender of the subjects had very little direct influence on the oral health or related behavior established early in life. They also found that nearly half of them had mucosal disorders, and that the odds of finding stomatitis, denture-related hyperplasia or angular cheilitis increased about three-fold in denture-users, and almost doubled in men.

Perceptions of oral illness were explored among Chinese immigrants in Montreal using in-depth interviews with 12 relatively well-educated Chinese immigrants who had lived in Canada for no more than 13 years (Dong *et al.*, 2007). The interviews revealed that traditional beliefs coexisted with scientific knowledge. On the one hand, the subjects understood the etiology, process, prevention, and treatment of dental caries reasonably well; but on the other, they held to traditional beliefs about gingival swelling and bleeding. Apparently, this dichotomy of beliefs influenced their attitudes towards dental care and professional services. But the researchers did not explain how this influence was manifested in the oral health behaviors of the participants. They concluded that dental professionals should be informed about Chinese immigrants' oral health beliefs and the acculturation process in order to understand their patients better and provide culturally competent care.

In summary, there is a growing body of knowledge from the British Commonwealth and some Asian countries about the oral health beliefs and behaviors of Chinese immigrants, which suggest that the immigrants are not much different from mainstream populations in Canada and the UK. However, some differences do exist. For example, the use of herbal tea and traditional remedies for dentally related problems and the various means of seeking dental care to control the cost are common, which warrant further research to explore the underlying factors such as culture and traditional health beliefs. Quantitative surveys about the oral health beliefs, behaviors and practices of the Chinese populations of the United Kingdom and Hong Kong, Taiwan, Southeast Asia and Canada offer insights into this heterogeneous¹ and yet invisible²

¹ Djaio (2003) had gone into more depth about the heterogeneity of the Chinese Diaspora. Although she did not mention specifically about the older Chinese, it is clear that Chinese emigration originated from many parts of China where there may have great variations of beliefs, customs and dialects.

² Kwan & Bedi (2000) had observed that the Chinese in the UK were an 'invisible community' and might be considered as a 'silent minority'. It can be inferred that Chinese seniors as a group are even more 'invisible' among the Chinese immigrant populations in the West. For example, their dependent status in the family reunification

ethnic group. But more in-depth investigations of specific beliefs affecting oral health behaviors are lacking, especially related to Chinese seniors. Therefore, more qualitative investigations into the Chinese immigrant populations in developed countries such as the British focus group study by Kwan & Holmes (1999) and the recent Montreal study using in-depth interviews (Dong *et al.*, 2007) are needed to explore the influence of culture, traditional health beliefs, and coping and adapting skills on the oral health behaviors of the Chinese and Chinese seniors living in their adopted countries.

Culture, Ethnicity and Acculturation

Culture is a term that used in many different contexts to mean many things. According to Strauss (1990), culture can be used to refer to the shared patterns, knowledge, meanings and behaviors of a social group. Each culture has its own system of beliefs, perceptions and ideas about health and illness, which underpin health-related behaviors (Helman, 1990). In multicultural societies, culture has significant impacts upon health behaviors, health care delivery and practice. For example, many people hold culturally different understandings of oral health and symptoms. Some professionals operate as though there is a consensus about healing and assume that various patient subgroups share the dominant scientific knowledge (Strauss, 1996). Lee *et al.*, (1993) suggests that health promotion might be more successful among immigrants from China if it was more based on TCM concepts.

Ethnicity is defined in sociology as a “shared cultural heritage” (Macionis, 1997). The fact that members of one ethnic group are aware of having a common ancestry, culture, language, or religion confers a distinct social identity (Djao, 2003). In China more than 90% of the Chinese

program in Canada may make them more relying on their young sponsors and less able to exert their own presence in the community.

belong to the Han nationality. However, the characteristics of a Han Chinese depends less on similar physical features than on sharing the same cultural heritage, especially the Han Chinese language, which is made up of hundreds of local dialects (e.g. Mandarin, Cantonese, Fujianese/Taiwanese, etc.). If there is anything physical to which they would peg their ethnicity, it is not so much to their genes as to their geography. Most Chinese like to identify geographically with where their ancestors came from, and so they have 'roots' in China (Djao, 2003).

The concept of acculturation is used to identify the psychosocial process that immigrants undergo when they migrate to a different country or culture. But the way or means in which immigrants respond to this drastic change is still relatively unclear. Wong *et al.* (2006) studied a group of Chinese and Korean immigrants in the USA and found that life became more 'bicultural' as they adopted the North American lifestyles while parents gradually minimized their role as family authority figures by becoming more accepting of American values. Chappell (2003) found that social support and health predict life-satisfaction for Canadian elders in British Columbia and for Chinese elders in Shanghai, China. The elders in Shanghai live in much greater poverty, with much less education and poorer health when compared with Canadian seniors whether they be of Chinese origin or not. She challenged common belief that the aging experience is primarily different for seniors in Asia and those in Western cultures. At least, there is no dramatic difference between Asian and Western cultures that once was believed (Chappell, 2003). From a recent survey of Chinese immigrants in Toronto, Canada, Ma & Chi (2005) reported that there is a lack of information on their perceptions of the social services available to them and on how they seek and access social services. Several scales are designed to assess the psychosocial aspects of acculturation; but most of them measure only the most observable, physical aspects of the host culture (Suinn *et al.*, 1992; Ali & Chaw, 2002). It

appears that we know very little about interactions between physical and psychosocial health as indicators of acculturation other than the fact that higher levels of acculturation predict greater use of health services, possibly including dental services, in the host country. Thus, it is likely that acculturation is not a predictably linear process for emigrants moving from one country or culture to another, especially when they become old (Wong et al., 2006).

Chinese Culture, Traditional Chinese Medicine & Oral Health

Culture includes language, food, medicine, philosophy and values. Inheritance of a language is usually seen as aiding and supporting the development of an ethnic identity. But according to Djao (2003) Chinese people living outside China can have a sense of 'being Chinese' without knowing the Chinese language. So it appears that knowledge of Chinese language can contribute to the development of a Chinese overseas identity, however, language is not essential to this identity. There is a popular Chinese proverb: "first of all, people eat" (*min yi shi wei xian*), which reflects the overwhelming cultural significance that Chinese people attach to food. The vegetables, cuisine, and styles of cooking used in the Chinese diaspora today are essentially the same as those of the Chinese in Mainland China. Beyond food, it is Chinese values that most Chinese associate with their identity. Filial piety (or xiao) is the first value culturally Chinese. Education is the second deeply ingrained value. Other bedrock values are forbearance, perseverance, diligence, modesty and frugality. The two most influential philosophical systems developed in China come from Confucius and Daoism. From a common origin in agriculture, they developed a similar theory that argues that when anything, in nature or in human affairs, reaches one extreme, a reverse motion toward the other extreme will take place (Djao, 2003). Generally speaking, the Chinese as a people are much more concerned with issues of this world and this life, than about a previous life or next life. In this conceptualization

of Chinese culture, it is not necessary for people to be religious, but it is necessary that they should be philosophical (Fung, 1964).

The traditional health beliefs of many Chinese are based on Traditional Chinese Medicine. Over several thousand years, various aspects of TCM made remarkable contributions to the prosperity and survival of the 'Middle Kingdom' (The Chinese Nation) (Xu & MacEntee, 1994). Some of the earliest Chinese books recorded the use of medicinal herbs and the effects of nutrition on health. The book "*Huang Di Nei Jing*" (*The Yellow Emperor's Classic of Internal Medicine*), which was completed in the third century BC, described herbal remedies and acupuncture. By 200 BC, the Shang Han Lam (Discussion of Cold Disease) listed hundreds of medicinal herbs and extracts from herbal, mineral, animal sources and introduced their therapeutic properties. The Chinese medicinal classic by Li Shi-Zhen in the Ming Dynasty (1152 – 1578) listed nearly 2,000 herbs and extracts (William, 1996), and by 1990, the latest edition of the Pharmacopoeia of the Peoples' Republic of China listed more than 500 single herbs and extracts and nearly 300 complex formulations (Keville, 1996). TCM is based largely on the Theory of *Yin & Yang* and the Chinese Five Elements (gold, wood, water, fire & earth), which is commonly manifested in the concept of 'hot' & 'cold' *Chi or Qi* for various states of health.

The history of dentistry in China is also closely aligned with the remarkable developments of TCM over at least six millennia (Xu & MacEntee, 1994). Four distinct periods have been identified: 1) Early period (3000-1100 B.C.) provided early signs of adornment with human teeth; 2) The Golden Period (1121 B.C. – 960 A.D.) when the first textbooks and colleges appeared to describe preventive and restorative dental techniques; 3) The Controversial Period (961 A.D. – 1800 A.D.) when war mongering prevented much progress; and 4) the domination of Western medicine and dentistry in the last century (1801A.D. – onwards). About 5000 years ago, Huang Di laid the foundation of Chinese medicine in his book '*Nei Jing*' written about

2698 B.C. He proposed that pain resulted from an imbalance of body temperature; and he drew associations between oral and systemic diseases. He identified mucosal inflammation (*fong ya*), periodontal disease (*ya kam*) and caries (*chong ya*), and he had the insight to connect calculus and inflammation with gum disease and tooth mobility. The first dental text, *Ko Qiong Yu Ya Chi* (the Mouth and Teeth), was written around 160 A.D. by Zhong Ging; and Jeo Kan a few decades later (223 A.D.) described dental fluorosis among the residents of Shan Xi in the northwest mountains of China where fluoride mottling is rampant. By the beginning of the Tang Dynasty (619 – 907 A.D.), dentistry was acknowledged as one of the 13 branches of medicine. Some time during the Tang Dynasty, ordinary people began to brush their teeth and to use saline mouthwashes. Around 1644 - 1911, the period when Manchus occupied China was an era of stagnation and decline in the arts and sciences, and no less so in medical and dental practice. From 1801 onwards, indigenous medico-dental practices were modified to accommodate Western techniques and ideas, although it was not until the middle of the 20th century that the methods of the ancient Chinese ‘dentists’, ‘tooth removers’, ‘tooth-worm removers’, ‘tooth fitters’ and ‘tooth cleaners’ ceased to operate (Xu & MacEntee, 1994).

TCM encompasses a vast array of medical practices. It holds that the body’s vital energy (*Chi* or *Qi*) circulates through channels called *meridians* that have branches connected to bodily organs and functions. Illnesses are mostly attributed to imbalance or interruptions of *Chi* or *Qi*. Ancient practices such as acupuncture, acupressure, moxabustion, Qigong, and the use of various medicinal herbs are used to treat patients and restore balance and health (Barrett, 2002). Lai and Chappell (2007) found the combined use of TCM and Western health services is common among elderly Chinese immigrants in Canada. TCM included seeing a Chinese herbalist, consulting a bone-setter, using moxabustion, using acupuncture, consulting a *Qi Gong* specialist, using over-the-counter Chinese herbs or herbal formulas. They concluded that health

care professionals working with aging Chinese immigrants should pay attention to the potential use of herbs and herbal formulas in combination with Western medicine, and take cultural factors such as traditional health beliefs into consideration when providing treatment and health services.

Modern Western biomedical practice often attempts to find the main cause of an illness by investigating the underlying etiology. If no bacteria, virus, or genetic defect is found, Western medicine may not find a cure. Drugs and /or surgery are sometimes used to quickly control the acute symptoms, often with undesirable side-effects. TCM is a much slower and holistic process and is preferred by ordinary Chinese for prevention and treatment of chronic diseases. On the whole, Chinese and Western medicine complement one another (Ng & Ng, 2007).

Rationale for qualitative approach

To sum up the literature review, it is fair to say that there is substantial body of research done on the Chinese immigrants living in the British Commonwealth, Hong Kong and China regarding their oral health status, beliefs and behaviors (Lind *et al.*, 1987; Kwan *et al.*, 1991; Kwan & Williams, 1998; Soh *et al.*, 1992; Lo *et al.*, 1994; Schwarz *et al.*, 1994; Pau *et al.*, 1997; Lin *et al.*, 2001; Zhu *et al.*, 2005; Lai & Hui, 2007). This body of research, by and large, has shown that many Chinese immigrants lack oral health knowledge, visit dentists infrequently and mainly for symptomatic care, believe the inevitability of tooth loss in old age, and some may use TCM approach for pain relief. But most of the research is based on questionnaires and surveys, which offer only limited insights to individual feelings or attitudes of the participants/subjects. In particular, they do not allow the researchers to explore specific behaviors reflecting the underlying beliefs and values. More recently, Kwan & Holmes (1999) and Dong *et al.*, (2007) have begun to use qualitative methods to explore oral health beliefs and

behaviors of Chinese immigrants in West Yorkshire, the UK and Montreal, Canada. However, there is still a need for more qualitative studies to lend more depth to the oral health beliefs, behaviors and acculturation of the sub-populations of visible minority immigrants, particularly the Chinese seniors in the developed world.

Chapter Three

Conceptual Framework

In the last few decades, there were ongoing debates about the definition and measurement of oral health as a phenomenon experienced in the elderly population. According to the British National Health Service (1990), the clinical definition of the mouth included “the standard of health of the tooth, its supporting structures (periodontal tissues and alveolar bone) and any other soft tissues of the mouth”. This definition supports the measurement of oral health in terms of the presence or absence of disease in teeth, bone and gums through clinical indices such as the Decayed, Missing, and Filled – DMF index for teeth (Klein *et al.*, 1938), and the Community Periodontal Index of Treatment Need – CPITN for supporting periodontium (Ainamo *et al.*, 1982). These two indices offer a reasonably objective epidemiological assessment of the mouth and bring into focus the physical consequences of oral disease (Locker, 1988). Although objective clinical indices are informative as epidemiological tools, they do not address the psychosocial consequences of oral disorders or the subjective perspectives of oral health as perceived by the patient (MacEntee *et al.*, 1991). For example, the indices do not reflect the subjective effects of oral disorders on appearance, ability to chew or social interactions.

In order to understand oral health more subjectively, Cohen and Jago (1976) proposed the development of dental psychometrics to measure the consequences of oral disorders on oral health-related quality of life using a socio-dental indicator (SDI) (MacEntee, 2006). About 17 SDIs have been developed so far, and most of them are modeled on general psychometric questionnaires such as the Sickness Impact Profile (Brondani, 2007). According to MacEntee (1996), the theoretical basis for SDIs in current use originated mostly from Parsons’ Sick Role

Theory, which presents illness or disease-related symptoms with social significance beyond physical or biomedical signs and symptoms.

In 1980, the World Health Organization introduced the International Classification of Impairments, Disabilities and Handicaps (ICIDH) with a focus on dysfunction and disablement associated with chronic conditions and their consequences (WHO 1980) (Figure 1-Appendix 3). The ICIDH described impairments as structural abnormalities from a given disease at the level of the organ or physiological systems. Disability was portrayed negatively as a consequence of impairment which limited the functional performance and activity of a person. Handicap then reflected the disadvantage experienced by a disabled person as a result of the meaning given by the social environment to impairment and disability (Patrick & Erickson, 1993). The unidirectional arrows in Figure 1 represent the linear progression from impairment to handicap after a disease is diagnosed. However, this progression does not accommodate individuals who can minimize, prevent or even reverse impairment through positive coping or adaptation strategies (Brondani, 2007).

Nevertheless, the ICIDH has been very influential in dentistry, and by 1988, Locker adapted the WHO framework to produce a model of oral health (Figure 2-Appendix 3). Locker's model portrayed oral health with unidirectional relationships between oral diseases, disability and handicap influenced by pain and several other intervening variables (Locker, 1988). For example, impairment such as tooth loss can lead to a functional limitation in chewing. The same impairment can also lead to physical or psychological pain and discomfort, which can lead to disability and handicap. One example of oral disability is the inability to speak publicly due to limitations to perform physical or social activities. An example of oral handicap would be

employment difficulties due to impaired speech or appearance following loss of front tooth (or teeth) (MacEntee, 1997).

The ICIDH and Locker's model go beyond the structural consequences of illnesses by introducing terms such as disadvantage and handicap. But they offer little room for the influence of health behaviors and beliefs on functioning and disability. They overlook the potentially beneficial impact of strategies for coping and adapting to impairment or disability (MacEntee *et al.*, 1993). For example, total or partial tooth loss may constitute a disability in some Western cultures, but may be perceived as a normal part of life for other ethnic groups, such as for older Chinese who expect to lose their teeth as they age (Kwan *et al.*, 1999).

In an attempt to address the limitations of the ICIDH and to acknowledge current concepts of disability and health, the WHO adopted the International Classification of Functioning, Disability and Health – ICF in 2001 (Figure 3-Appendix 3) (WHO 2001). The ICF framework illustrates disorders and disability more dynamically rather than as a linear progression from normality to handicap and social exclusion. It offers a common ground for describing health and its related conditions associated with personal factors, health beliefs and behaviors, and adaptation to the social milieu. In the context of oral health, it allows for the possibility of two individuals with a missing front tooth may be equally 'impaired', but become 'limited' or 'restricted' in a different manner (MacEntee, 2006).

MacEntee (2006) presented an existential model of oral health conforming to the language of the ICF framework and with empirical findings in-depth interviews with community-based seniors in a neighborhood of Vancouver (Figure 4-Appendix 3). In his recent PhD dissertation, Brondani (2007) reviewed and appraised the validity of 17 SDIs and found most of them were based conceptually on a negative perspective of disability. He supplemented MacEntee's model,

with the additional themes relating to diet, economic priorities, expectations, and health values and beliefs (Figure 5-Appendix 3). In both models, culture, health beliefs and values, coping and adapting abilities are all influenced by the environment, which includes a wide array of socio-cultural variables.

I selected the phenomenological approach for my study. The basic tenet of phenomenology is to reduce individual experiences with a phenomenon to a description of the universal essence (Creswell, 2007, p: 60). This means that the researcher collects information from persons who have experienced the phenomenon to develop a composite description of the essential components of the experience. This description consists of ‘what’ they experienced and ‘how’ they experienced it (Moustakas, 1994). The process is one in which individuals interact, act or engage in response to a phenomenon, which in my study is oral health-related belief and behavior. Moreover, since the conceptual framework of my qualitative study is influenced strongly by models of oral health developed by MacEntee (2006) and Brondani (2007), I searched specifically for evidence of the phenomena related to culture, oral health beliefs and behaviors during the interviews. My goal has been to acquire adequate information related to the phenomena, and also to tell the personal oral health stories of this particular group of elderly Chinese immigrants.

Linking oral health of Chinese immigrants with current model(s) of oral health

The majority of the dental public health studies of Chinese adults and seniors in the West in the last few decades were conducted with structured interviews and questionnaires to document the oral health status, beliefs, attitude and behaviors of the participants. According to MacEntee *et al.*, (1997) there is a growing sense that “inventories of dysfunction do not adequately explain the full significance of aging and that structured interviews offer little opportunity to explore

feelings and concerns” because they do not allow the researcher to explore how specific behaviors reflect underlying values and beliefs. In his recent review of the literature, Brondani (2007) casts doubt “on the validity of most socio-dental indicators (SDI) used to quantitatively explore the psychosocial impact of oral health”. Therefore, my present study will be conducted using qualitative method to explore the significance of oral health in the lives of elderly Chinese immigrants in Vancouver, especially looking into their cultural characteristics and traditional beliefs that might influence their oral health-related beliefs and behaviors.

In summary, the theoretical basis of my study is based on phenomenology with current models of oral health as a conceptual framework. The phenomena of my inquiry are the oral health-related beliefs, behaviors and culture of elderly Chinese immigrants.

Chapter Four

Methods

Selection of Participants

A long-term care facility in Vancouver's Chinatown was purposefully selected for recruitment of frail Chinese seniors for interviews. I obtained the help of the in-house social worker at the facility to recruit participants for the interviews. The method of sampling was purposeful and selective in the facility to target the relatively healthy Cantonese-speakers who agreed to be interviewed for at least 30 minutes or more. Among the 8 residents, I obtained 6 acceptable interviews but was unsuccessful with the two frail seniors because they were unable to participate fully and their information was untrustworthy due partly to their different accents and partly to their cognitive state. I found that interviewing frail Chinese seniors in the long-term care facility was a challenging experience due largely to the frailty and mental competence of the seniors. Consequently, I also interviewed other seniors who were living more actively and independently in the community. All participants were required to sign a Consent Form in Cantonese prior to commencing the interview based on ethical standards set by the University of British Columbia³.

Participants in Long-Term Care

Five women and 3 men were selected for interviews by the nursing staff and social worker of the LTC home (Table 1). Their ages ranged from 70-93 years old with a mean age of 82 years. Six participants were born in Mainland China and two in Hong Kong. Among the 6

³ This research project was approved by the Research Ethics Board of the University of British Columbia (UBC BREB # H07-00611).

seniors from Mainland China, 1 immigrated with his family to Vietnam when he was 5 years old; 4 left China for Hong Kong before or shortly after the Chinese Communists took power in 1949; 1 left China in 1979 and came directly to Canada. One of the other 2 participants immigrated from Hong Kong and the other from Vietnam to Canada. Two seniors (an engineer and a teacher) had post-secondary education and the remaining 6 had varying levels of elementary to secondary school education. All 8 seniors speak various dialects of Cantonese. I understood six participants quite well but the other two spoke Chongsang and Kerja dialects, which were difficult for me to understand (See Table 1).

Table 1: Background information of LTC Chinese seniors

AGE	SEX	COUNTRY OF ORIGIN	CHINESE DIALECT	EDUCATIONAL LEVEL	MEDICAL CONDITION	code
70	F	China	Cantonese	elementary	Early dementia	F1
73	F	China	Cantonese	secondary	Mentally alert	F2
76	M	China	Chongsang (Cantonese)	post-secondary	Parkinson's Disease	M1
77	F	Vietnam	Cantonese	secondary	Mentally alert	F3
81	M	China	Cantonese	elementary	Early dementia	M2
85	F	China	Cantonese	post-secondary	Mentally alert	F4
87	M	Hong Kong	Cantonese	elementary	Early dementia	M3
93	F	China	Kerja (Cantonese)	elementary	Parkinson's disease	F5

All of the participants in this section of my study were frail and functionally disabled - seven of them used wheelchairs. Some had Parkinson's disease, dementia, or various degrees of memory loss as explained by the nurses or the social worker who assisted me. Most of the interviews lasted between 20 to 50 minutes and one interview lasted 63 minutes. I had difficulty sustaining a conversation with three of the participants because they could not focus easily on their past dental experiences or dentally-related beliefs. Some of them got tired easily, which prompted me to end the interview earlier than expected. Among the eight interviews, six of them (M1 & F5 were excluded due to difficulty with their Chinese dialects) were selected for ease of

understanding their Cantonese dialects and better content, and were translated and transcribed for analysis. During the interviews, I used the iterative process of making use of the preceding interview to inform the next interview, for refining the interview guide, and for addressing unanswered areas of concern.

Community-Based Independent Participants

In the second part of my study, I decided to interview more healthy and mobile community-based seniors. The method of sampling here was to select members of a Chinese seniors group in East Vancouver. Participation was limited to elders over 60 years who were: 1) relatively healthy & mobile; 2) could speak the standard dialect of Cantonese; and 3) had lived in Canada for at least 5 years. The 5 years residential requirement was to ensure that they had a reasonable experience and stay in Canada.

The group coordinator at a local community centre helped me to recruit four of the potential participants (including herself) using a strategy of purposeful sampling of elders with potentially different and diverse backgrounds. I recruited two participants.

In the second part of my study, 6 community-based elderly immigrants - 3 women and 3 men, participated with an average age of 70 years (range 63 to 76) for the women and 68 years (range 59 to 77) for the men, (Table 2). They worked in a variety of fields before retirement, including accounting & bookkeeping, laborer, restaurant /café cook and owner, engineer, teacher and mechanical supervisor. They lived independently in the community and had leisure activities or hobbies, including walking, working with computers, volunteering, going to the theatre or movies, playing cards or majiong, ballroom dancing, watching Chinese TV series. Although it was not a specific question, some participants described their medical problems, which were

heart conditions or hypertension (n=3), back problems (n=2), arthritis (n=2), sleep apnea (n=1) and early signs of dementia (n=1). One participant wore complete dentures whereas the others had natural teeth. Some of the participants visited the dentist regularly whereas others went only for emergency care.

Table 2. Background information of community-based participants

CODE NAME	AGE	SEX	COUNTRY OF ORIGIN	CHINESE DIALECT	EDUCATION
F1	72	F	China	Cantonese	Elementary
M1	78	M	China	Chow Zhou	Elementary
F2	77	F	China	Cantonese	Secondary
M2	60	M	Vietnam	Cantonese	Post-secondary
F3	63	F	Hong Kong	Cantonese	Post-secondary
M3	68	M	Brunei	Cantonese	Post-secondary

F1: This 72 years old lady (born 1936) was born in Canton Province, China. Her family immigrated to Hong Kong when she was about 11 years old. She finished her elementary education in Hong Kong and did not attend secondary school. She was later involved in accounting/bookkeeping as a career. In 1991, her family immigrated to Canada, but she kept her job in Hong Kong until 1995 before she finally settled down for retirement in Vancouver with her husband.

M1: This man was 78 years old (born 1930). He was born in the northern region of Canton Province and moved to Hong Kong in his late teens to work with his uncle after WWII. He married in his twenties and had four children (3 daughters & 1 son). Most of his career was in labor and retail business. In 1992, his family emigrated from Hong Kong to Vancouver where he retired from work. He was in good health after recovering from an early episode of prostate

cancer several years ago. He wears complete dentures. He was responsive and funny at times throughout the interview, although he spoke with a strong Chow Zhou accent which was challenging to understand.

F2: This woman was 77 years old (born 1931) from Canton Province who completed her secondary school education at a teacher's college affiliated school. She moved to Hong Kong for a few years before joining her husband in Canada in the late 1950's where they had three daughters and one son. Over the years, she helped her husband in a grocery and café business. She is a devoted Christian and very proud of her children's and grandchildren's achievements. She was in good health, except showing early signs of dementia partly known to link to severe sleep apnea. She is some natural teeth and visits dentists for regular preventive care.

M2: This 60 years old man (born 1948) was born in South Vietnam, and his family moved to Hong Kong in the 1950's. He finished elementary & secondary education in Hong Kong before immigrated to Canada in 1970. He graduated from McMaster University in the mid-1970s with an engineering degree. He worked in various capacities as engineering consultant and systems specialist for engineering companies in Calgary and overseas. He has a daughter and son who are doing well academically. He retired early from his career because of his wife's stroke and severe paralysis. He has been a full-time personal caregiver to his wife with the help of a hired nursing-aide. He was healthy with occasional stomach upsets and seems focused on his path in life with contentment.

F3: This 63 years old woman (born 1945) was born in Canton Province. Her parents brought her as an infant to Hong Kong where she received both her primary and secondary education. She

became an elementary school teacher and finished her teaching career in Hong Kong before immigrating to Canada in 2000. She has one daughter and two sons but is separated from her husband. She was relative healthy but was in some emotional distress during the separation/divorce from her husband. She considered her oral health to be excellent in Hong Kong where she had regular preventive dental care, but since immigrated to Canada she had gum disease that required surgery.

M3: This 68 years old man (born 1940) was born in Malaya and grew up in Brunei. He received technical training as a mechanical supervisor for an oil company before coming to Canada in 1989 to work as a foreman in a pulp mill. He is married with two sons and one daughter. He is very proud to have two grandchildren. He seemed in good health and has regular dental care in Brunei and Canada.

Three of the community-based participants (F1, M1& F2) were, at one time or another, my dental patients. F1 saw me once at my dental clinic for a consultation. M1 saw me once in an emergency. F2, who is my ex-mother-in-law, was my patient for a few years for regular dental care. F1 helped me recruited M1, M2 and F3 from the community centre. I recruited F2 directly; and M3 contacted me directly to participate. I shall discuss the implication(s) of the dentist-patient relationship and its potential effect(s) on the study in the discussion chapter (See p. 73).

In the third part of my study, I interviewed 2 TCM practitioners in the community to find out their perspective on the relationship between oral health and general health (See p.58).

Interview Procedure

Most interviews were conducted and analyzed in 7 stages: 1) thematizing; 2) designing; 3) interviewing; 4) transcribing; 5) analyzing; 6) verifying; and 7) reporting (Kvale, 1996). During the thematizing & designing stages, I formulated the research question and designed the interview guide to answer the research question. The in-depth, semi-structured and open-ended interviews took place with the institutionalized seniors in the common room of the LTC facility where they lived in Vancouver's Chinatown during the spring of 2003, and with community-based seniors in the social activity room of the community centre between June 2007 and March 2008. An interview guide (Appendix 1) was used to lead the interview process. The guide for each interview was modified and improved from the subsequent interview using the information gained in the previous interview. The interviews ranged from 30-90 minutes. The average time spent with the LTC seniors was about 30 minute and about 1 hour with the community-based seniors.

Each interview had four parts to collect the following information:

- a. demographic background – *i.e.* age, gender, marital status, education level, prior employment status, length of time in Canada, ethno-cultural identity;
- b. oral /dental beliefs, knowledge and habits;
- c. self-assessed oral health status, treatment needs and challenges accessing oral healthcare;
- d. influence of Chinese culture and traditional health beliefs on oral health-related concerns and choices.

Verification of Translations of Transcripts

All interviews were conducted and tape-recorded in Cantonese. I translated and transcribed the content of each tape within a week after the interview. The transcription of each interview consisted of a general summary of each response rather than an exact *verbatim* translation.

Following the interview of each participant, I listened to the audio-tape several times and made notes in my field-note journal about pertinent observations. I translated and transcribed the tape before giving the tape and the translated text to another Cantonese-speaker to cross-check it and comment about accuracy. I was concerned about the possibility of misinterpretation or distortion of the participant's response. The six interviews involving the community-based participants were checked in this way by one of two other Cantonese speakers (VL & KK). VL transcribed the taped interview for the first participant independently of my transcription, and I checked both transcripts for differences in translation. For example, for the question for F1, "How important do you think teeth and/or dentures are to your appearance?"

My version of the transcript was as follows:

"I'm the type of person who doesn't care or hold on to other people's comments or opinion about my appearance. As far as my teeth or mouth is concerned, I have a bit of 'bunny rabbit' upper front teeth, but they don't bother me. Unlike my grand-kids, I wasn't lucky enough to be born in an era when having braces and straightening teeth is commonplace. But I don't care or mind at all!"

VL's version was:

"My person is very simple. This is what I look like. I don't really think about how other people view my appearance. What is most important is that you are

happy. It's not very important to me how I look. When we were children, we didn't get braces. Now, all of our children have braces. But I don't really care! I am simple."

After listening carefully again to the original tape, I noticed that we each translated the tape a little differently. Apparently, VL was more verbatim and colloquial in her translation, but she seemed to have missed the original intent of the participant, and I tried to summarize the participant's ideas with my own words and managed to retain the original meaning of the participant's words. There were marked differences in the choice of words by both of us in the interpretation of the original tape. For example:

When the F1 answered the question, "How did you take care of your teeth in your childhood...?"

My version of the first part of the transcript was:

"When I was 6 -7 years old..., my family was poor and being uprooted by the Sino-Japanese war. We had problems with basic survival and mouth or dental care was least on our minds... We didn't know the importance of teeth – we're ignorant about it! If we had a toothache, the elders might suggest taking some herbal tea or rinse with salted water. In those days, there were very few dentists in China and we really didn't know where to find them... I had very blurred memory about my mouth care in my early years..."

VL's version was:

"When I was 6 or 7, the Japanese came....Our family was very poor. We couldn't afford medicine. We did not think about our oral health. Back then, we only talked about tooth aches. Does your tooth hurt? Oh well, a tooth ache is a tooth ache. Just boil some hot water to drink –

right? Just use some salt water to rinse it. And at that time, there weren't many dentists. Even if you want to see a dentist, I think it would be hard to find one. I can't really remember my oral health back then. It was not important. We really didn't think about it.

Despite of marked difference in word usage in the above example, the underlying meaning of the participant's narrative was similar for both versions.

Unlike VL's direct translation and transcription, KK cross-checked the accuracy of my translation of the tapes against my translated text with some additions, alterations and comments, but she did not translate and transcribe the whole text herself. For example, in response to my question to M1, "If you compare yourself with people who are the same age as yours, how do you think about your dental health?"

My translation of M1's answer:

"As far as I know, those people who wear partial denture with supporting teeth seem to have more trouble with their dentures. For me, I'm happy with my full denture. I suppose it depends on how well the dentures are made. I heard people had problem with their new full dentures falling out easily; but I rarely had that happened to me. I suppose I'm pretty lucky... I remember you helped me with a denture repair several years ago when I was in a hurry and you gave me a discount and charged me about 200 dollars. (laughter)"

Apparently, I missed part of the answer and KK added:

"I think that my denture is good. I don't have loosened denture problem. My denture fits my mouth well. I am careful with my diet to keep my denture in good

condition. The expenses for daily meal are cheap, the expense for fixing denture is expensive.”

However, most of the differences were insignificant. For example, in response to my question to F3, “How do you look at the relationship between general health, appearance and oral health? Do you see a link among these three areas of concern?” I transcribed the first sentence as: “My #1 concern is general health...” whereas KK transcribed it as: “General health is my first priority...”

In response to my question to F2: “You’ve been in Canada for about 50 years; it seems that you’ve regular dental check-ups for some time in Canada?” My transcript and KK’s addition/alteration was as follows:

“Yes, especially in the last 15-20 years, I have regular check-up and cleaning about twice a year. [I have lots of friends who do not go to a dentist regularly due financial problems. – KK] I also use dental floss every night as part of my dental hygiene routine. My friends always praised me for having such good teeth and smile!”

. In summary, I resolved all differences by listening to the original tape repeatedly to clarify which version of the response was most accurate, and by incorporating the additions, alterations or different interpretations of these two independent sources into my original transcripts, I refined the transcripts. It is fair to say that my version of the transcript is mostly in agreement with the verification of VL & KK.

In October 2008, I conducted a focus group with five of the original community-based participants to present the 5 principal themes I found during the narrative analyses, to solicit further discussion or input, and to confirm the validity and accuracy of my analysis (See p. 54).

Traditional Chinese Medicine Practitioners

The interviews (about 45 minutes each) with the two clinical practitioners of TCM helped me to understand their perspectives about the relationship between oral health and general health. One of interviews was taped and I made notes in my journal for the other. The interviews took place at their TCM clinic. The rationale for interviewing the ‘experts’ was to cross-check the reasoning and validity of some of the traditional health beliefs of the participants against the TCM doctors’ views (See p. 52).

Analysis

According to Moustakas (1994), phenomenological analysis is occurs in 3 steps. The first step is called ‘epoche or bracketing’ in which the researcher sets aside as far as possible all preconceived experiences to better understand the experiences of the participants in a study. The second step is ‘horizontalization’ in which the researcher lists every significant statement relevant to the topic and gives it equal value. The third step is called ‘clusters of meanings’ in which the researcher clusters the statements into themes or meaning units, removing overlapping and repetitive statements (Moustakas, 1994, p.55)

My phenomenological exploration of oral health is focused on the participants’ perspectives about oral health relative to general health. I obtained information about how they think about, respond to, and maintain their oral health. I conducted the interviews, examined field-notes, categorized information, and described the participants’ beliefs and practices related to their oral health to be presented as a thematic outcome (Creswell, 2007; p. 156-7).

After incorporating the necessary alterations to my original transcript, I re-read the modified transcriptions several times to begin the process of a contextualizing analysis to explore the transcript texts and other information for relationships between the different elements (Maxwell, 1996 p.78-9). After “getting a sense of the whole” transcript, I searched systematically for themes, storylines, topics and context in which they occur (Sandelowski, 1995, p.179-83). I consistently and regularly took information from one interview and compared it to the themes that emerged from previous interviews (Creswell, 2007, p.159-60) (See Preliminary coding table APPENDIX 2 – p.77). Preliminary coding was done using Moustakas’ three steps to identify the ‘what’ and ‘why’ of the oral health phenomenon as experienced by my participants interviewed (Moustakas, 1994, p.55). Following this process, 3 themes emerged from the interviews with the institutionalized participants while 5 themes emerged from the community-based participants.

Chapter Five

Findings

EMERGING THEMES FROM THE INSTITUTIONALIZED PARTICIPANTS:

Three main themes emerged: 1) self-diagnosis of oral health and needs, 2) dental knowledge, and 3) cost of dental care.

Self-Diagnosis of Oral Health and Needs:

All of the participants interviewed offered an explanation or self-diagnoses of their oral health status and treatment needs or a subjective interpretation about the state of their mouth. For example, one participant explained his belief in the benefits of leaving well-alone:

“I just brush and rinse my mouth - that’s it! As far as my mouth is concerned, I adopt the “just let-it-be” attitude. If there is no toothache, I don’t usually visit the dentist.” (Mr. K. age 81)

Mr. K’s approach was consistent with almost all LTC participants. Another participant commented about a gum disease:

“I had gum swelling recently. I guess it was due to “hot air”. Maybe I ate too much “hot air” food or did not get enough sleep. Anyway, I took some herbal tea for a couple of days and the gum boil was gone!” (Mrs. L. age 70)

It is not unusual for some participants to feel that they have less-than-ideal oral health, such as multiple missing teeth, tooth decay and chronic gum disease, yet they feel healthy provided there is no acute pain or discomfort, as one participant remarked:

“I know that I have some missing teeth and possibly some cavities. But I have no problems with my teeth and gums. And I can eat anything. So my mouth is O.K.” (Mrs. Y, age 77)

Thus, for some of them, “no pain” equals “no problem”, as long as they can chew and still enjoy their food, and their way of life is not disturbed significantly.

Dental Knowledge

The overall dental knowledge of the participants was poor. They strongly believed in some dental myths, far from clinical reality. One participant explained forcefully:

“I don’t believe in professional dental cleanings. I think it damages the teeth in the long run. So I have never had my teeth cleaned by a dentist or hygienist.”
(Mrs. M., age 85)

Another participant believed in using toothpaste that could effortlessly clean his teeth:

“My relative recently bought me some toothpaste that can remove tartar without any effort. My mouth is a lot cleaner now.” (Mr. K, age 81)

Yet another held a strong view that “dental ‘problems’ are not considered diseases at all” (Mrs. M., age 85).

Some participants who wore dentures seemed fatalistic about their mouth and believed in the inevitability of tooth loss:

“No matter how we take care of our teeth, we’ll lose some or all of them as we get old. I’m a good example. I wear a full denture for my upper teeth; and I only have a few left at the bottom. I think I’ll lose them all before I die!” (Mr. K., age 81)

Cost of Dental Care

Mrs. L (age 70), like others, believes that “dental fees are very expensive in Hong Kong so [she] went to Shenzhen, China to get cheaper dental work done”. So, she demonstrated the practice of travelling to another country or region to get cheaper dental work done as a means of managing the high cost of dental care.

Cost was identified as one of the biggest roadblocks to receiving regular dental care:

“I don’t visit a dentist often because they charge a lot. It’s too expensive for me.”

(Mr. L., age 93)

“I wish I can see my dentist more regularly but dental fees are very expensive. I only go when I really have to, like when I have a bad toothache.” (Mrs. Y., age 77)

The evidence that they would go back to China for dental treatment indicates that they feel dental care in Hong Kong and Canada is too expensive.

The self-diagnosis of oral health status and needs was related to their poor knowledge about oral health and subjective self-assessment. Cost of dental services was a definite concern throughout the interviews. I learnt from these interviews that it is important to prepare adequately before the interviews for potential surprises during the interviews, and to make field-notes immediately after each interview.

EMERGING THEMES FROM THE COMMUNITY-BASED PARTICIPANTS:

Five themes emerged from the six interviews with the community-based elders: 1) cost of dental care; 2) traditional health beliefs vs. scientific health beliefs; 3) poor oral care in childhood; 4) general health and appearance and 5) effect of adaptation & coping abilities on oral health.

Cost of Dental Care

The perceived and real costs of dental services are also an ongoing concern and a common theme for all of the community-based participants. F1 talked about the socio-economic status of immigrants like herself and her husband, and how they coped with the high cost of dental services:

“You have to understand that for immigrant seniors like us, to make money is difficult. Every time we go to see a dentist, the cost of the dental service can run into hundreds of dollars, which is very steep for most low-income or fixed- income seniors.” – F1

“I only see a dentist when I’m in great dental pain or discomfort. Imagine even for basic dental cleaning, the cost can be \$100-150. Just for my husband and I, we’ll be looking at around \$300 each time, not a small sum for us. So we just do our best at home with our oral hygiene routine.” – F1

M2 mentioned also the unpredictability of dental treatment as an investment of money and time:

“I know that going to see a dentist is expensive and painful. And if the dental problem is not treated well or right by the dentist, there is usually more problem

or trouble down the road. So I like prevention more than treatment or cure.” –

M2

F3 contrasted the cost of private dental care in Canada and her subsidized or ‘covered’ dental services in Hong Kong, and couldn’t believe how costly her dental specialist visits were:

“In August 2000, I saw a dentist for the first time in Canada. That dental visit caused me more than \$200. Very expensive! Then I had a follow up visit during which I paid another \$200. All together it caused me more than \$400 for my first dental cleaning in Canada! Compared with my covered dental visits in Hong Kong, it’s very expensive!” – F3

“I was referred by my dentist to a gum specialist who required me to have several sessions of deep cleaning of a few teeth at a time with freezing. Each appointment caused me about \$100-200 each time. The whole specialist appointments caused me more than \$1000!” – F3

M3 went further to contrast the income level of two countries and the dental cost:

“I agree that the cost of dental care in Canada is very high compared with where I came from. For example, the cost of dental cleaning is about \$100-150 here, whereas when I head back to Malaysia or Brunei, the cost of dental cleaning there is about 20 Malaysian dollars which is equivalent to about \$10. So, my Vancouver dentist jokingly suggested that I get my teeth cleaned in Brunei when I travel there!.... And it’s not always fair to compare the dental cost of different countries

because the labor cost is mainly based on local market rate which varies from country to country. But on the other hand, by comparing the income level of an average worker of Brunei and Canada, the amount he has to pay for his dental work in Brunei is still relatively cheaper than what he pay for the similar work done in Canada.” - M3

F1 agreed with M 3’s argument:

“The cost of dental care in Hong Kong is quite a bit cheaper than here and even more so in China. The cost differential is almost similar to the exchange rate of the currencies.” – F1

Many immigrants from Asia get their major dental work done in their country or place of origin before they immigrate to North America or go back to get it done as part of visiting their motherland. Several participants testified to this phenomenon:

“I lost one tooth after another and had to consider dentures. Before I immigrated to Canada with my family, I’d taken all the remaining teeth because they’re mostly loose and had full dentures.”- M1

“Before I moved from Hong Kong to Canada in the mid-90’s, I heard of the high cost of dental care in Canada. So I made an effort to have my mouth thoroughly checked by a local dentist and had most of the needed dental works done before I landed in Canada. In 1998, when I went back to Hong Kong for family visit, the local dentist prepared a bridge for me...” – F1

One participant, M2, talked about how he managed the cost of dental care after he ran out of dental insurance when he retired recently:

“Now that I’m retired from the regular work force, I don’t have a dental plan anymore. So I’m a lot more cautious how I spend my dental dollars. I remember that in mid-1980’s when I was working in Calgary, a typical session for cleaning was about \$50-60 but nowadays it is probably more than \$100-150. Since I’m paying the bill myself, I’m very careful when do I see a dentist. And I’m meticulous about my oral hygiene at home.” – M2

Because of their perceived high cost of dental services in Canada, several of the participants advocated some form of governmental sponsored or subsidized dental program for seniors or special need groups:

“My hope is somehow the government will help the seniors out by lightening our [financial] burden of seeing dentists. My reason is if we had healthier teeth, we should be eating better; that meant we’ll have better overall health and less burden to our healthcare system. So, the government should consider more even-handed measures to help us seniors with subsidized dental care.” – F1

Another participant related the dental situation with services in other disciplines:

“... the [BC] government has included acupuncture in the healthcare for low-income people. But I think if the government is willing to cover an annual dental check-up and cleaning for poor people, it may be more beneficial than covering for acupuncture.” – M2

By taking early retirement from work, M2 has been a full-time personal caregiver to his wife who had a brain aneurysm several years ago. He is advocating for a government assisted dental plan for seniors and others with special needs:

“I think the governmental agency should help set up a dental health network that can allow special need people to access the network for dental services. The network has a ceiling or threshold how much each person can spend. A user fee is OK. But the government needs to spend some tax payers’ money to set it up and put it into operation. This way people don’t have to worry about spend[ing] thousands of dollars for dental care that they need and yet they can’t afford. The special needs group should include people like the seniors and disabled people like my wife.” – M2

And M2 even cited his wife as an example to illustrate the relative merits of a government sponsored program (acupuncture) with unsponsored dental care:

“A case in point is: my wife has numerous sessions of acupuncture but the direct benefit is not obvious for her. I don’t rule out the potential benefit for some people to receive acupuncture treatment; but the benefit may not be widespread. Annual dental check-up and cleaning may benefit more people on a larger scale as part of healthcare.” – M2

In summary, the cost of dental services in Canada is identified as a prominent financial barrier to good quality dental care by these participants; and the participants have devised various ways to address this difficulty, such as more meticulous oral hygiene at home, travelling back to their old country for cheaper dental care, seeing dentists only for urgent or emergency care, or simply ‘tough it out’ and ignoring the dental ‘problem’ as long as possible.

Traditional vs scientific beliefs related to the mouth

Traditional health beliefs of many Chinese seniors are related directly or indirectly to TCM, which is an integral part of the Chinese culture and heritage. Only two participants (F1 & M1) used herbal tea, warm salt water or other Chinese medicine for minor dental problems, while the others (F2, F3, M2 & M3) mentioned that they don't use TCM for dental problems. Thus, the results from these participants pointed to the likelihood of TCM beliefs vs. Western biomedical knowledge are on a 'continuum' of health beliefs among these seniors. F1 is representative of the TCM traditionalist approach:

“To be honest, when we're young, our parents usually turn to TCM for help if we're sick. That's the case even for tooth or mouth problems. TCM always talks about 'hot & cold chi' and is a more conservative treatment. After my family moved to Hong Kong, we were more exposed to Western medicine. But we still mostly stick to the traditional Chinese way of healing.” – F1

M1 seemed to concur with F1 and went further explaining the use of 'comfort food'⁴ to deal with denture problems:

“I found that when I had more '*hot chi*' in my body, my denture support was also affected and became more swollen or unstable. I usually drink some gingsang tea to “cool” my body down. And for my diet, I may switch to rice soup or congee as comfort food.” – M1

Apparently, the adoption of more westernized health beliefs resulted in varying choices of remedies. M2 is philosophical about traditional Chinese approach and the Western biomedical

⁴ The term 'comfort food' was used properly in TCM as 'food for cure' or *shi liao*, which literally includes any food that can help restoring the balance of the body. So, 'comfort food' is more of a Western term that has no direct Chinese translation; the closest translation is *shi liao*. There seems to be no direct link to concept of 'comfort' used in MacEntee's model.

approach and tried to explain the difference between those who adopted a TCM approach and those who did not:

“The people who believe in TCM take a more MACRO approach on the mouth or the body as a whole, whereas I take a more MICRO view and deal with the tooth or gum. People who take the ‘macro’ view [TCM] can interpret the symptoms of the gum as coming from many different sources. Whereas people like myself who take the ‘micro’ view [scientific Western medicine] will look at the gum area as the initial source of the signs and symptoms and try to do something at the gum level rather than drinking herbal tea to ‘cool’ the body systems.” – M2

F3 was a Hong Kong teacher with a more westernized education and a Catholic secondary school upbringing. She seemed to take a more balanced approach:

“Some family members had the habit of taking herbal tea or herbal remedy. But I didn’t have appetite for black-looking herbal stew or drink, so I generally avoid such remedies. When I got a bit older, if I had ‘hot chi’ or swollen gum, then I would eat more ‘cool’ food such as watermelon, Chinese pear or other fruits. But I don’t have the habit of drinking herbal tea.” – F3

M2 had an interesting interpretation of the difference between TCM and Western medicine:

“My understanding from observing the older Chinese is TCM places a lot more importance on the MOUTH rather than on the TEETH. There a huge difference between Chinese and Western medicine. The TCM doctors would be more concerned about symptoms such as dry mouth, bad breath or hot tongue *etc* and try to relate them to ‘yin & yang’ and ‘dry & humid’ principles in Chinese medical theories. But I have never heard of a TCM theory that is concerned about the state

of a tooth e.g. color, shape or hole etc., and the herbal medicine needed to cure that particular tooth.” – M2

He went on to comment about the MACRO and MICRO views of dealing with periodontal or gum disease:

“I’m not against what they do to control the gum problem because they are using the ‘MACRO’ view to deal with the situation and herbal tea *etc* might just help! But I take a more ‘MICRO’ view of the problem. I’ll concentrate my effort at the tooth (or teeth) and the immediate surrounding area where bacteria and food particles might be trapped. So I think cleaning up the ‘garbage’ around the area is the first step towards eventual recovery.” – M2

Participants F3, M2 and M3 had a more Western education outside China, consequently, their more westernized upbringing and education had a definite influence on their health beliefs. F3 and M3 went further to explain why they chose not to believe in TCM:

“I’m more in favor of Western scientific approach rather than the TCM approach. Since there was no formal examination for herbalists, I didn’t have confidence in them. Whereas Western doctors or dentists have formal training and examinations before they are qualified to practice their skills, so I have more confidence in their competence. It’s true that I normally didn’t take Chinese medicine and didn’t see Chinese medicine doctors. And I never took my children to see TCM doctors or got them herbal medicine.” – F3

M3’s upbringing in Malaysia and Brunei and his more Westernized education in Southeast Asia likely influenced him to think similarly:

“I don’t believe in TCM because it lacks proof. I don’t believe in the concept of ‘*hot chi*’ or ‘*cool chi*’, so I don’t use herbal tea to ‘cool the fire’, especially regarding teeth or mouth. Even for my whole body, I normally don’t consider using TCM even though my father was a TCM practitioner.” – M3

M3’s statement about his father being a well-known TCM doctor overseas who had won professional awards in his native Guangzhou was particularly fascinating. The following is his explanation why he does not believe in TCM:

“Around WWII, Western medicine was not in widespread use in Southeast Asia. Chinese medicine was in good demand, so my father was quite respected by the local Chinese as a good TCM doctor... But with the increased use of Western medicine and equipment there, TCM gradually declined in use. I was educated to accept Western medicine as more advanced than TCM. So, I have more faith in Western medicine.” – M3

We can see here the influence of Western education (formal or informal) and of the new social or cultural environment on the changing health beliefs of the participants as they grow old and adopted Western biomedical ideas as part of their adaptation to the new country.

Another interesting observation is the possible link between religious affiliation and health beliefs. Besides the Westernized education some of the participants received, their religious beliefs influenced their beliefs about Western biomedical knowledge vs. TCM. The following is a good example:

“I had the front bridge made mainly for appearance because I didn’t like the missing tooth look. I don’t believe in doing it for luck and fortune. I’m a Christian... I don’t believe in these old Chinese tales!” – F2

That disdain for traditional “tales” might extend towards TCM and possibly other traditional beliefs.

Poor Oral Care in Childhood

Poor or non-existent oral care in childhood was commonplace because of war, natural disasters and other factors for the participants who grew up in the 1930’s and 40’s:

“We didn’t know about the importance of the mouth or teeth... we’re ignorant about it! If we had a toothache, the elders might suggest taking some Chinese herbal tea or rinse with salted water. In those days, there were very few dentists in China and we really didn’t know where to find them... I only brushed my teeth occasionally. I had very blurred memory about my mouth care in my early years because it wasn’t taught as important daily hygiene.” – F1

M1 went on to talk with humor about how he coped when he was young:

“In those days, we couldn’t care so much about our teeth; we might try some pain medicine for tooth problems or just hanged tough as long as we could. Sometimes we just had to face pulling the tooth/teeth and afterwards ate soft food or watched relatives enjoying solid foods in despair!” – M1

M2 pointed out the irregular and erratic oral ‘bad habit’ in his childhood:

“Another childhood bad habit was we didn’t care when we brushed our teeth and when we ate our food or snacks – we often ended up going to bed with a dirty mouth without brushing after eating” –M2

M3 remembered his dental hygiene habits as a young boy in Brunei and gradually learning about proper oral hygiene:

“When I was very young, say around 5-6 years old (just after WWII), we didn’t know or care too much about the teeth or mouth. It’s after I went to primary school that I started to learn a bit about oral hygiene. And when I was in secondary school, I found out more about the teeth and mouth and the importance of keeping the mouth clean regularly.” – M3

These comments indicate the neglect and ignorance associated with dental or oral care when the participants were young, and they point to possible effects in their later lives. Several of them felt badly about the neglect and wished that they could have done more to prevent the dental downhill slide if they had learnt more about dental hygiene and had the financial means to seek professional dental services.

General Health and Appearance (Comfort)

The relative importance of general health and dental appearance was an issue that most of the participants felt strongly about:

“I’m the type of person who don’t care or hold on to other people’s comments or opinion about my appearance. I’m more concern about my health.” – F1

“My main concern is health! Appearance is more secondary.” – F2

“I care about the health of the whole body rather than just [my] appearance” – M3

There was evidence that they showed signs of adapting and coping to what is going on in their mouth as they grow older. F1 talked about her gradual acceptance of the ‘western’ way of oral hygiene:

“As we get older, we’re also getting more information about health through different media. We’re learning more about Western medicine. We’re learning more about good oral hygiene habits. A good example is rinsing our mouth after eating sweets;

[it] is a step forward in preventing tooth decay. Also, we learn to avoid very hard food such as chewing on bones or biting crab shell so as not to chip our old and brittle teeth!” – F1

F3 explained how she learnt through her personal experience with periodontal disease by adapting:

“After finding out about my gum disease, I felt I was more psychologically affected by the concern about losing teeth. So, I’m very diligent with my daily oral hygiene and spend more time with different toothbrushes and use dental floss regularly. Currently, my oral hygiene is even better than when I was in Hong Kong. When I was in Hong Kong, I didn’t even floss!” – F3

Although most of the participants believed that general health was more important than personal appearance, they also believed that oral health has some effects on facial appearance.

F1 explained further about the effect of ‘bad breath’ on social interactions:

”Good dental health can also improve our appearance and when we interact socially. For example, if we didn’t clean our teeth well and had bad breath, it might leave a bad impression with other people and affected our social interactions.” – F1

F2 explained that she “had the front bridge made mainly for appearance because I didn’t like the missed tooth look.” Concerns about one’s appearance also seem to lessen with time and age. F3 had become more accepting of the look of her front teeth as she aged:

“Appearance is more important when you’re younger. My front teeth are a bit crowded. So, I would consider straighten my teeth with braces if I was younger. But now that I’m much older, I don’t care about my appearance as much. So I don’t think about braces anymore” – F3

M3 was very emphatic about the paramount importance of good health vs. the secondary nature of appearance:

“Appearance is mostly cosmetic and superficial. If you’re in poor health, appearance is nothing!” – M3

M1 had an interesting viewpoint about a missing front tooth (or teeth) and its possible relationship with fortune and luck:

”Losing a front tooth was a big deal because of Chinese Fung Sui. Many Chinese are very superstitious! Losing a front tooth (or teeth) is like opening a flood gate for the good fortune to get out and cannot retain the fortune inside oneself. So making a bridge or plate was a common practice for fortune and appearance. Even if it was quite expensive to fix the front missing teeth, there’s not much one could do. It’s hard to have missing or no teeth, both for appearance and for eating and fortune!...” –M1

M1’s above comment was more culturally specific to the Chinese tradition and can be distinguished clearly from the Western view of appearance.

He went on to relate his experience with losing his teeth over the years:

“I lost some of my teeth in my adult years and started to wear a partial plate. And as I get close to retirement, my teeth became very loose. So, I end up get[ting] them all pulled and put[ting] in full plates. You [are] bound to lose some or all teeth as you get old. That’s just a fact of life of being old!”-M1

He seemed to have accepted the inevitability of tooth loss in old age with grace and humor by proudly asserting that he could eat anything with his ‘choppers’. On the other hand, those who were more educated or westernized disagreed with M1’s assertion:

“I do believe that the straight alignment of the front teeth will help the figure of speech.

In other words, you can pronounce words more accurately if you have perfectly

straight front teeth. For myself, I have slightly crooked front teeth; so I have difficulty pronounce certain words more accurately. On the other hand, there are people out there walking around with missing front teeth; and they don't seem to have problem communicating with others. So it's a huge drawback from a practical viewpoint and not from a superstitious viewpoint." – M2

F2 even evoked her Christian faith as the reason for rejecting the superstitious 'old Chinese tales':

"I had the front bridge made mainly for appearance because I didn't like the missing tooth look. I don't believe in doing it for luck and fortune. I'm a Christian and ... I don't believe in these old Chinese tales!" – F2

M2 was born and brought up in Brunei and educated in a western-orientated school, so he also rejected such 'superstitious claims':

"I'd heard about folklore like that but I don't believe in such superstitious claims! I look at it from a practical point of view of eating and chewing of foods and the appearance to others. Also, the missing gap might affect one's speech." – M3

In summary, only a few of the participants held to the traditional view about appearance of their teeth and most of them subscribed to the more practical and aesthetic aspects of dental appearance. Almost all of them would take general health as a priority over appearance.

Effects of Coping and Adapting Abilities on Oral Health

The ability to cope with new challenges and adapt to the new environment in a new country seem to vary greatly from person to person, depending on many possible variables such as the duration of stay in the new country, the level of education, language challenges and motivation to adapt and adjust to the new surroundings. F1 showed signs of adaptation when she moved

from China to Hong Kong at her young age and when she immigrated to Canada more than 10 years ago:

“When we’re young, our parents usually turn to TCM for help if we’re sick. That’s the case even for tooth or mouth problems. TCM always talks about ‘hot & cold *chi*’ and is more conservative in its treatment. After my family moved to Hong Kong, we were more exposed to Western medicine..... So it’s an educational process to learn about keeping ourselves healthy in the more Westernized surrounding. Since we immigrated to Canada, we’re learning more about the importance of the mouth or teeth within overall health.” – F1

M1 seemed to be enjoying his new retired life in Canada:

“First, when I arrived in Canada I was older and retired. Secondly, the lifestyle for seniors is more relaxed and healthy with proper meal and snack time throughout the day. I live a more healthy life in Canada...

M2 contrasted his experience with Canadian dental professionals and his dental experiences in his youthful years in Vietnam and Hong Kong:

“For sure there were some positive changes from contacting Canadian-trained dentists and hygienists. I still remember my close encounter with a Chinese-speaking hygienist and how she informed me about the current state of my mouth, especially my gum, and offered words of encouragement. In a more advanced country like Canada, we’re fortunate to be within a healthcare system where professionals are willing to educate and promote oral health prevention.” – M2

F3 also compared her dental experiences in Hong Kong, which were mostly positive and low-cost, with the recent dental experiences in Vancouver, which were painful and expensive, challenging her coping and adapting ability:

“I was lucky to have regular dental care and cleaning from 30–50 years of age while I lived in Hong Kong [covered by the teachers’ health plan]. And I had hardly any dental problems except pulling one tooth and filling another one. When I first arrived in Canada, I didn’t pay particular attention to my teeth or mouth because I thought my mouth was OK when I left Hong Kong. And my relatives and friends didn’t remind me about the cost the dental service here. It was only until a few years ago when I found out that I had gum disease that I started to pay closer attention to my dental care. And in the last two years, I’ve been seeing a gum specialist for my gum disease. But I found it out the hard way about the cost of seeing a dentist in Canada!” – F3

On the other hand, M3 seemed to adapt to the Canadian way of preventive dental care very well:

“I think the Canadian dentists are mostly very professional and take good care of my mouth/teeth. Although they tend to charge more for the dental services, they are worth it! I rarely have any dental problem since I came to Canada; and I usually go for yearly dental check-up and cleaning.” – M3

The above comments show that the participants are coping and adapting to their new lives in Canada to varying degrees. The adaptive process may be social and cultural, may be due to a personal goal to acquire new information through education or self-learning, or simply arises from choosing to live a new way of life in the host country.

Main themes from TCM clinicians:

The interviews with the TCM practitioners (Dr. M & Dr. W) revealed their views about how: 1) the soft tissues (gingiva and mucosa) of the mouth are linked to the ‘spleen & stomach’ (*‘peewai’*) or the digestive system; 2) the hard tissues (teeth and bone) are linked to

the ‘kidney’ (*‘shen’*) or the secretory/endocrinal/reproductive systems; and 3) the tongue is linked to the heart or circulatory system, through the meridian channels. They both emphasized the holistic nature of TCM in dealing with oral diseases by healing the body systems that linked to the different parts of the mouth. For example, when dealing with dental or hard tissue ailments in the mouth, they would use herbal remedies that heal and strengthen the *‘shen’*. And when dealing with periodontal or oral mucosal disorders, they would use herbal medicine that heal and strengthen the *‘peewai’*. They also agreed that drinking herbal tea or rinsing with salted water is just a short-term band-aid care for oral symptoms; the proper long-term approach is the holistic healing and regeneration of the balance of the body system.

Dr M cited a classic TCM text to explain the underlying theory of TCM:

“According to *Nei Jing*, popularly known as *The Yellow Emperor’s Classic of Internal Medicine*, TCM contains a theory of the universe that involves health, humanity, and nature in an integrated system based on the two great cosmic forces, *yin* and *yang*. Health and disease can be explained by the constant interaction of these two forces” – Dr. M

Dr. W emphasized the importance of holistic approach in TCM:

“TCM focuses on the whole body instead of its parts. It is not aimed to relieving symptoms on a piecemeal basis, but rather, it directs its attention to treating the underlying cause of the disease and thus returns the body to its balanced and harmonious state” – Dr. W

Dr. M concurred with Dr. W about the essence of treating the underlying cause(s) in TCM, rather than just symptomatic control or relief of the disease:

“There is a popular saying in TCM: “*gu ben pei yuan*” (which translates as ‘solidify the foundation and foster the original elements or sources’). What I aim to do for my patient is to diagnose the underlying cause(s) of the disease, be it physical, mental and/or

psychological. Then come up with a holistic treatment scheme to address the patient's medical condition and the whole body together.” - Dr. M

In summary, the two TCM clinicians addressed some common facets of Chinese medicine by linking the whole body systems to individual organs and showing their interconnectedness with respect to the mouth/teeth. However, they did not specify how to deal with oral disease locally.

Findings from Focus Group:

I reported my findings to five community-based participants (F2, F3, M1, M2 &M3) in a focus group gathering and solicited their response to my findings. Only F1, the coordinator of the Chinese seniors group, was not present at the gathering. The following is a summary of their responses.

1. Cost of dental care

M1 asked for more governmental help for low-income seniors like himself:

“For retired seniors, we have very limited income. We need help from outside sources to keep our teeth healthy. The government should help us more!” – M1

M2 had mixed feelings about people travelling back to their home countries for cheaper dental work in order to avoid the relatively expensive Canadian dental care:

“Going back to the old country for dental work is only a way of handling high cost of dental care in Canada – it's not an ideal way! It's great that the BC government sponsors ‘Health Kids Dental Program’ for children from low-income families. I think similar dental program for low-income seniors should be considered by our provincial government.” – M2

M3 wondered about the true nature of ‘universality’ of the Canadian healthcare system:

“I don’t know why in Canada we are supposed to have universal healthcare, and yet basic dental care is not part of the healthcare coverage. There should be some form of dental coverage for people who don’t work or already retired.”

M2 again brought up the subject of BC government recently paying for acupuncture for low-income people under the Medical Services Plan:

“Acupuncture is recently covered by healthcare in BC for low-income people. But I think the numbers of people benefitting from coverage for acupuncture are far fewer than those who would benefit from basic dental care. Oral care is basic health care.”

He went on to talk about lobbying the government:

“Dental professionals should act as a facilitator to lobby the provincial government to provide basic dental coverage for low-income senior and other special needs groups such as my totally disabled wife. There shouldn’t be any conflict of interest for the dentists because you’ll be advocating for genuine need or void of an essential healthcare in the community.”- M2

F3 recalled her dental care experience in Canada after moving here ten years from Hong Kong:

“I had extensive gum treatment for my gum disease in Vancouver and paid thousands of dollars for it. Because of the high cost of dental care here, I’ve learnt to take better care of my mouth by practicing good dental hygiene everyday. I think there should be more oral health promotions to teach people how to take better care of their mouth so as to prevent expensive dental bills!”

M1 mentioned with humor about his approach of avoiding hard food such as nuts or crab shell to decrease the chance of denture repair, which is a good example of coping:

“I used to love to eat peanuts, sugar cane and crabs. But I had the bad experience of breaking my denture while eating crabs. So, I now avoid hard foods like crabs. What is the point of eating a crab that may cost \$10 -20 and may end up breaking the denture that may cost \$200 denture repair bill?” – M1

To sum up, to deal with relatively high cost of dental services in Canada, some Chinese elders may take the preventive path of better oral hygiene, some may choose to avoid certain food and undergo dietary changes, others may take some herbal tea or pain remedies for temporary relief of their dental ‘problem’, still others may go to some places for cheaper dentistry. They all find their own ways to cope with high dental care cost. Some of these elderly participants still hope that the government would somehow help them out financially when seeking dental services.

2. TCM beliefs vs. scientific biomedical ideas

M2 asserted that one’s way of life has a lot to do with whether one chooses to follow TCM approach or Western biomedical knowledge:

“To me, whether one is more inclined to TCM or accepting Western scientific approach is really part of one’s way of life and habits. For example, I have been drinking tea for years and tea is very much part of my life. But until very recently I do not know that tea has fluoride which is beneficial to the teeth. It is possible that some of the traditional way of life or habits may eventually prove to be scientifically sound.” – M2

M3 subscribed to a popular Chinese saying: “It doesn’t matter if it is a black or white cat; as long as it catches the mouse!” and expressed his thought as follows:

“I think the main reason why some people choose to use herbal tea or remedies for minor ailments is because it really works for them. How it work or why it work is up for

debate. Some of us may believe it is due to changing levels of '*chi*' proposed in TCM. But it doesn't matter at all as long as it works for the individual."- M3

F3 accepted the Western biomedical knowledge and medicine more than TCM approach:

"I think the Western scientific ideas are more based on proper research and Western medicine has better safety standards than TCM products..." – F3

Its fair to say that whether the participant was more accepting of TCM approach or Western biomedical knowledge was very much based on personal health beliefs and his/her way of life.

3. Poor oral care in childhood

All the elderly participants agreed that they had poor oral care in their childhood. And some of them expressed the sentiment that educating the young ones about good oral hygiene early in their lives is very important:

"I was a teacher in Hong Kong and I am a strong believer in early childhood and youth education. I think teaching young ones good dental hygiene will for sure benefit them later in life as healthy habits. That's why I totally agree with more health promotion information about oral health for young and old." – F3

M1 went as far as using his own bad childhood oral habits and how he ended up with full denture to educate his grandchildren about good dental hygiene:

"Sometimes I deliberately removed my dentures to show my grandkids and hope to scare them into taking better care of their young teeth. They loved my childhood stories and we had good laughs together! It's a good educational experience for them coming from their grandpa's real life." – M3

Most of the participants looked back at oral care in their childhood with mixed feelings and wishing the younger generations will do better than them in oral care.

4. General health and appearance (comfort)

All the participants agreed that general health is more important than appearance. They seemed to have some difficulty relating appearance to the concept of 'comfort'. They joked about the importance of 'appearance' in their younger days:

“Appearance to me is not that important at my age. It’s a different story when I was young and chasing after women! Now that I’m old and living with my own mate; I don’t care about my appearance anymore.” - M1

F3 thought appearance is still somewhat important for some 'young' seniors like herself because “she feels better when she looks good”, especially if she socialized with others:

“I like to dress up occasionally to feel good about myself and look comfortable in front of other people at parties or gatherings.....” – F3

M3 emphasized the importance of oral health and its relationship with appearance:

“I always believe health is more important than anything else. So I’ll prefer having good health over appearance anytime. But I also think good oral health and good appearance go hand-in-hand because healthy teeth and gum naturally project great appearance. I like to have healthy gum and clean teeth without bad breath which help me socializing with confidence.” – M3

5. Adapting and coping skills

This theme was controversial and difficult to get consensus among the participants. F3 used her dental experience in Hong Kong and Canada to illustrate her journey of adapting to a new culture and surrounding:

“I was an elementary teacher in Hong Kong and had dental coverage allowing me to see a dentist regularly without worrying about cost of service and payment. However,

since I immigrated to Vancouver a few years ago, my sister convinced me to see a dentist for check-up and cleaning. I found out that I needed to pay more than \$200 for something I could get free service in Hong Kong; I was quite surprised and alarmed with the dental cost! Later, I was diagnosed of gum disease and I end up paying for more than \$2,000 for the whole gum treatment. Since I learnt about high cost of dental care in Canada the hard way, I've since learnt the proper way of oral hygiene and have been working hard on prevention to keep my dental cost down!" – F3

M3 made an interesting observation about the difference in perception of dental cost between the older immigrants like himself and the younger generation of Chinese brought up in Canada:

"I emigrated from Brunei to Canada many years ago and also found out the hard way about the relatively high cost of dental care in Canada compared with my old country. When I was back home in Brunei, I had dental coverage from the company I worked for but even if I had to pay for private dental visits, the amount of dental payment was still many times cheaper than here. You see, we've the experience of comparing the dental cost between our old and new country; but our sons and daughters and their kids may not have this comparison to make. So their perception of high cost of dental care in Canada may not be as acute as ours. That is a form of adaptation to the new culture and surrounding!" – M3

Therefore, adapting or coping with the new culture and environment, whether it is socially and culturally based or personal in nature, is still controversial.

Chapter Six

Discussion

This study of the oral health beliefs, behaviors and acculturation of Cantonese-speaking elderly Chinese immigrants is the first of its kind in Canada, involving both the long-term care frail Chinese seniors, more active community-based Chinese elders and TCM practitioners. The findings reflect the perceptions of oral health from 14 perspectives. However, I need to be careful when interpreting and transferring my results to other elderly populations. In other words, the participants in this study may not be typical of an elderly Chinese population elsewhere. The participants have various durations of stay in Canada as immigrants, varying levels of education, and different socio-economic backgrounds and careers; but they are all Cantonese-speaking from Southern China. Thus, for example, my results may not apply to other the recent economic immigrants from Northern and Central China who are Mandarin-speaking and relatively well-educated.

Six interviews were with frail and institutionalized elders in 2003, six with the independent and relatively healthy elders in 2007-08 and two with TCM practitioners. Although the research question evolved with time, the format of the interviews was similar for both groups. At the start of my study, my question was: “How can Canadian dental professionals, health care administrators and governmental agencies help Chinese seniors improve their oral health status and treatment needs?” Then, when I began my project at the LTC facility in Vancouver interviewing the frail Chinese elders, I had narrowed my focus to “oral health beliefs and treatment needs of elderly Chinese seniors in a nursing home”. And in the second part of my research, the question had evolved into “exploring the effect of culture, traditional health beliefs, coping and adapting abilities, and acculturation experiences on the oral health beliefs and behaviors of Cantonese-speaking elderly Chinese immigrants”. The evolution of my research questions shows the gradual narrowing of my focus based on a more in-depth

understanding of the related literature and the phenomenon of oral health in the lives of these Chinese elders.

The study has explored oral health beliefs and behaviors in more depth than previous quantitative studies (Kiyak, 1981; Lind *et al.*, 1987; Lo *et al.*, 1994; Schwarz *et al.*, 1994; Kwan *et al.*, 1998; Lin *et al.*, 2001). There are agreements between my findings and surveys, especially in the UK (Kwan and Williams, 1999) and Hong Kong (Lind *et al.*, 1987). The perception that old age is itself a major cause of tooth loss was reported in the US (Kiyak, 1981), Taiwan (Hou *et al.*, 1989) and Hong Kong (Lo *et al.*, 1994), and the pessimistic attitude about keeping teeth for a lifetime has been reported from the Chinese populations in Kuala Lumpur (Esa *et al.*, 1992), Hong Kong (Schwarz *et al.*, 1994) and the UK (Kwan *et al.*, 1991). However, there is both agreement and disagreement among the qualitative studies from the UK (Kwan *et al.*, 1999), Montreal, Canada (Dong *et al.*, 2007) and my Vancouver study. There is agreement that many elderly and adult Chinese participants believe in some form of TCM, but there is conflicting evidence about the level of influence of TCM versus Western biomedical knowledge. Traditional health beliefs appear to be commonly held among Chinese adults and seniors and less so among the younger Chinese in the UK study (Kwan & Holmes, 1999). Dong *et al.* (2007) revealed that traditional health beliefs co-exist with Western biomedical knowledge among the well-educated Chinese immigrants in Montreal. In contrast, I found that TCM beliefs and Western health concepts may co-exist; but they may also gradually replace each other depending on where the immigrants are at on the 'continuum' of health beliefs. The conflicting evidence may be due to different levels of education and English language competency among the elderly or adult participants. The immigrants I interviewed in Vancouver were mostly Cantonese-speaking with moderate to little education, whereas the participants in Montreal were mostly younger, more educated and Mandarin-speaking who recently emigrated from

China. Therefore, the rate of adaptation of the participants into the host culture, their intellectual ability and their degree of willingness to accept the health promotion ideas in the new country may also be factors in coping and adapting into a bicultural or multicultural surrounding (Wong et al., 2006). To reconcile the different degree of acculturation among the participants in the qualitative studies, I propose that the phenomenon of adopting Chinese health beliefs and/or Western biomedical knowledge related to oral health is on a *continuum* involving various levels of coping and adaptation.

Contrasting the traditional beliefs of the elders with the expert opinions of the TCM practitioners, there was a difference around the belief in drinking herbal tea for dental/oral ailments. Some of the Chinese elders believe that herbs or herbal tea would cure some dental ailments; but according to the TCM physicians, herbal tea is only a temporary measure for symptomatic control of the dental infection or ailment. In the long run, the physicians think that complete examination of the signs and symptoms followed by accurate diagnosis is necessary before a correct treatment regimen can follow. It seems that the believers of TCM among my participants, excluding the TCM experts, are hoping for a quick cure or fix of oral disease(s) or symptoms, whereas the TCM physicians advocate more prudent diagnoses and treatments. In addition, the level of knowledge and understanding of the various body systems and their interconnectedness vary considerably between the Chinese elders and the TCM physicians, which is not surprising considering their different levels of education and expertise about TCM.

One unusual observation from my field-work is that, besides the levels of Westernized education, religious affiliation seems to have some bearing on whether elders stay with traditional Chinese health beliefs or convert to the Western biomedical ideas. My hypothesis is that the Buddhists or Daoists among the elderly Chinese immigrants tend to hold on to the TCM beliefs or concepts, whereas the Christian elders tend to reject TCM beliefs as inferior to

Western biomedical knowledge. Buddhism, originated from India and has been popular in China for centuries, has co-existed with indigenous religion or philosophy such as Daoism and Confucianism. Therefore, it is well accepted by the many people in China. In contrast, Christianity as a Western religion has been foreign and unfamiliar to Chinese people until the last century. Thus, to become a Chinese Christian usually implies varying degrees of Westernization which may involve radical alteration or rejection of traditional beliefs, such as TCM.

In contrast to most of the Chinese studies of oral health, the most outstanding theme coming from my study is the complaint about the cost of dental services in Canada. Clearly the financial and socio-economic status of these Chinese immigrants plays a significant role in their decision to seek professional dental care or not. Lai & Hui (2007) found that more than half of the Chinese elders they surveyed in several Canadian cities in 2003 were living below the poverty line, and had not been to a dentist within the previous year. Many elderly Chinese immigrants, like other seniors, are on fixed or low income and many are financially dependent on their children who sponsored their immigration to Canada. For them to use their limited financial resource or ask for money from their sons or daughters to see a dentist may be difficult. That is why several of these elderly participants openly advocate financial support or subsidy from the government to lessen their 'pain' in paying for the dental services.

The poor oral care in the childhood of almost all the elderly Chinese immigrants in both institutionalized and independent settings had profound effects on their oral health for the rest of their lives. Many of them were born and brought up in the Great Depression in the 1930's or during the Sino-Japanese war (1937 – 1945) and the Pacific war when China and Southeast Asia experienced both natural and man-made disasters and more than twenty million people died. Basic daily survival was prominent on their mind; in contrast, oral/dental hygiene or care was

probably their least concern during those trying years. In their formative and youthful years, they had little or no exposure to basic oral hygiene. For them, poor oral hygiene was the norm that was hard to erase in their later years. This study concurs with the previous studies that Asians were less knowledgeable about tooth loss and periodontal health compared with most mainstream Americans (Kiyak *et al.*, 2002, Persson *et al.*, 1998, Kwan *et al.*, 1991). There are multiple factors why Asians in general, and Chinese in particular, may have poorer oral health status and knowledge compared to Caucasians. Poverty, education, socio-economic status, and cultural factors may all play some roles in the oral health outcome among Asians. The results of my study show that oral care habits in the childhood or youth, the cost of dental care and personal health beliefs are most likely influential in the oral health of Chinese elders.

From the conceptual framework, the concept of ‘comfort’ is used in the most comprehensive manner by MacEntee (2006) in the framework of ‘general health’/ ‘oral health’/ ‘comfort’ to include appearance, eating, pain and dentition. However, ‘comfort’ has a narrow meaning in Chinese language; thus, I used ‘appearance’ or ‘face’ to replace ‘comfort’ in the interviews with the Chinese seniors. These elderly Chinese immigrants by and large place ‘general health’ above ‘appearance’ as their main concern, which is similar to the mainstream population (MacEntee *et al.*, 1997). But they also appreciate the importance of dental appearance for social contact and for showing their ‘face’, which is highlighted in the environmental domains of MacEntee’s model. One participant associated missing front teeth with bad fortune or *Fung Sui*, although some others dismissed this traditional idea as ‘old tales’ not to be taken seriously. Most of the participants learned to cope with and adapt to their aging dentition with acceptance, which is no different from the mainstream Caucasian population in Canada (MacEntee *et al.*, 1997, Brondani, 2007). Brondani’s model of oral health (Brondani, 2007) accommodates ethnic

Chinese concerns through the inclusion of ‘health values and beliefs’ and ‘economic priorities’ as part of the environmental domains of the model.

The final theme of the study shows that the ability of coping and adapting seem to vary from person to person, possibly depending on multiple variables such as the length of stay in the new country, the level of education, personal and familial upbringing, language ability, and various cultural and religious elements. Coping and adapting skills of the participants fit in well with the environmental domains of the current model of oral health, and can be both social and personal (MacEntee, 2006, Brondani, 2007). A recent study by Wong *et al.* (2006) challenges us to reconsider the acculturation framework which implies a linear process that may not be theoretically valid if ethnic identity changes over the life course. They offer the concept of ‘biculturalism’ or integration of two cultures as an indicator of successful adaptation to immigration later in life. Information from my study indirectly supports the concept of the co-existence of both cultures in form of a *continuum* of change over time.

One of the main criteria of purposefully selecting institutionalized and community-based immigrants was their cognitive alertness and willingness to speak their mind. I had more success with the community-based group mainly because most of them were both mentally and physically healthy. My experience interviewing the LTC frail Chinese elders probably improved the quality of the interviews with the community-based group. Poor oral care in the childhood and relatively low level of dental health knowledge was also common for both groups. The coping & adapting / acculturation process varied widely in both settings. The levels of education, English language ability and socio-economic status are important factors in their experiences in oral health since they came to Canada.

Commenting on the limitations of my study, as the researcher and the “instrument” of the study, I come from a position of authority as a dentist who is well known in the community

where the participants lived. I downplayed my role as a dentist, and attempted to communicate with the participants on an equal level through social interactions, emphasizing my role as a graduate student. However, I acknowledge the possibility of my dual role in their communities might have influenced the outcome of the study. It is possible that some of the Chinese seniors might not have been completely candid with me because I was, at one time, their dentist. They might have been somewhat shy to disclose their personal history or dental history totally to me because I might still see and socially interact with them in the community. On the other hand, the three participants who were my patients at one time might feel more comfortable with me during the interview. The information I collected from F1, F2 and M1 showed that they were participants just as individualistic as F3, M2 and M3. I could not discern any difference between the two groups during the interviews, nor was I conscious of my role as a dentist except when they mentioned it during the interview. I was unable to have participants verifying the accuracy of the transcripts, although the focus group helped me to address this matter to some extent among the community-based group.

This study has raised issues related to access of dental care, dental public health and education. Regarding access to dental services, financial affordability was the most prominent concern. Policy makers and advocates need to consider some form of financial assistance program or insurance policy for preventive and basic dental services for special needs groups such as low-income seniors through governmental support or public and private partnership. Hopefully, with more lobbying and advocacy in the future, Medical Services Plan of British Columbia may eventually cover all or part of basic dental care for seniors regardless of their economic or financial status as part of public universal healthcare in Canada.

Many elderly Chinese immigrants seem to be receptive to both TCM practice and Western biomedical knowledge, so it would be useful to provide them with scientifically based oral health information when they first arrive in Canada. Also, through oral health promotion sessions provided by dental health professionals in local community centers, or through information brochures that are made readily available to the public, elderly immigrants can learn to improve their oral hygiene and to access dental services so as to improve their oral health. This is an area of research that could yield very useful results for this and other minority groups in our society.

In countries like Canada with high immigration rates from China, dental professionals should have basic understanding of traditional Chinese health beliefs and the acculturation process. A conflict or misunderstanding might arise between dental professionals and elderly Chinese immigrants if the former do not accept or respect the traditional culture of their patients. Therefore, I recommend that lectures on TCM and immigrants' health beliefs be provided to dental professionals through continuing education programs and to undergraduate dental students to improve communications with elderly immigrants, and to help provide culturally competent dental care.

The information developed from this study can be used to further explore the barriers to dental care for visible minority seniors, especially looking into the impact of socio-economic status, low dental knowledge and health beliefs. A similar study oral health beliefs and behaviors of elderly Mandarin-speaking immigrants in Vancouver could provide a basis for a comparison between the Cantonese-speakers in this study and the Mandarin-speakers studied in Montreal by Dong *et al.*, (2007). In the near future, healthcare professionals in the orthodox or alternative realm may learn to work together for the betterment of their patients.

Chapter Seven

Conclusion

The findings of this study show that relatively high cost of dental services in Canada compared to Asian countries is a major concern for elderly Chinese immigrants in Vancouver. The participants suggested strongly that some financial assistance or subsidy from governmental and/or private sources should be available for dental services to older immigrant groups, especially if they have low-incomes. TCM remains influential for some elderly Chinese immigrants in Canada, but most of them seem to be open to a role for Western biomedical knowledge related to oral healthcare. As a result, in order to provide culturally sensitive dental care, oral health professionals should be informed about TCM and develop an understanding of how oral diseases are perceived by elderly Chinese immigrants and other visible minority immigrants. Poor oral care in the childhood of these Chinese seniors was shown to be evident in this study; and the long-term effects of the early childhood upbringing, youth and adult habits on oral health are evident. All of the participants consistently valued general health more highly than appearance. Elderly Chinese immigrants should also be provided with basic scientific information about oral health through health promotion programs in order to help them acquire current oral health information. More studies are needed on other visible minority groups focusing on the effects of education, culturally related health beliefs, religion, and on the influence of coping and adaptation strategies for maintaining oral health.. The effect of acculturation on oral health of elderly Chinese immigrants in this study points towards the concepts of a *continuum* between traditional beliefs and scientific knowledge.

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Appendix 1

Interview Guide

Today, I would like you to tell me about your experiences with looking after your teeth and mouth and visits to the dentist throughout your whole life. Do you have any questions before we begin?

1. Let's start with how you have looked after your teeth and mouth throughout your life. What do you remember about your first experiences looking after your teeth? Going to the dentist? (Probe: Childhood, adolescence, adulthood, young old, present)
2. How is your mouth right now?
3. How important is the state of your mouth to you in relation to your overall health right now?
4. How would you compare your dental experiences to other people of your age?
5. How important do you think teeth and/or dentures are to your appearance and how you feel about yourself?
6. Let's talk now more generally about your health. Older people are frequently asked to rate their general health. What kind of things do you consider when answering that question?
7. What is the relationship between your oral health and overall health? Does your mouth affect your overall health? If so, how?
8. How does your mouth/teeth affect your quality of life and your lifestyle?
9. Now let's talk about culture and tradition. How do Chinese traditional beliefs influence your oral health beliefs and habits?
10. How do Chinese traditional beliefs influence your oral health choices or decisions?
11. How does your length of stay in Canada influence your oral health beliefs, behaviors and habits?

12. How different do you look at your mouth/teeth now comparing with your life experiences in Hong Kong or China?
13. Do you see a dentist regularly? Why do you see a dentist (dental doctor) or physician (medical doctor)? What are the differences between a visit to a dentist and a visit to a doctor?
14. What problems did you encounter seeing a dentist in terms of access, cost, language or cultural identity?
15. Do you have anything else related to your mouth that you like to share with me?

Appendix 2.

Preliminary Coding

The emerging themes are as follows:

1. The cost of dental care/services
2. Traditional health beliefs mainly related to TCM
3. Poor oral care in childhood
4. General health & appearance
5. Coping & adapting/acclulturation

The What:	The Why:
<p>Knowledge “I only have a limited knowledge and understanding of gum disease.” – M2 Importance of oral hygiene “Of course I have to change my oral hygiene habit to fit the new reality (of retirement & no dental plan). Nowadays, I floss at least once, if not twice, a day.” – M2 Link to general health “The influence is not that great.” –F1 “ My main concern is health ! Appearance is more secondary.”-F2 if I’d broken or unhealthy teeth, that meant I couldn’t eat well and that would in turn affect the function of my stomach & intestine. Without proper teeth to chew and eat, my digestion would be affected and that would ultimately affect my overall health.” – M3</p> <p>Link to QoL and wellbeing “Look at me: I still have a nice smile and so many good teeth at age 76!” –F2</p>	<p>Factors influencing knowledge</p> <p>Mass media “we’ve been getting more educated about the mouth or teeth through presentations by dentists, or through radios, TV or printed media” - F1 Topical/localized “There might be odd toothache or oral pain, but they were temporary and usually relieved by dental treatment.” –F1</p>
<p>Attitudes, Beliefs Traditional beliefs “We didn’t know about the importance of the mouth or teeth --- we’re ignorant about it!” – F1 “When we had toothaches, we usually end up with the teeth pulled. Losing a front tooth was a big deal because of Chinese Fung Sui. Many Chinese are very superstitious! This traditional Chinese belief contended that losing a front tooth (or teeth) is like opening a flood gate for the good fortune to get out and cannot retain the fortune inside oneself.” – M1 Social acceptance re: appearance “I’m the type of person who don’t care or hold on to other people’s comments or opinion about my appearance. As far as my teeth or mouth is concerned, I have a bit of ‘bunny rabbit’ upper front teeth, but they don’t bother me. Unlike my grand kids, I wasn’t lucky enough to be born in an era when having braces and straightening teeth is</p>	<p>Factors influencing attitudes and beliefs Life hardship “When I was 6-7 years old, China was in a state of national siege by the Japanese invasion.(Note: around 1941-42) My family was poor and being uprooted by the Sino-Japanese War. We has problems with basic survival and mouth or dental care was least on our minds. We struggled along with our parents for daily survival” – F1</p> <p>Generation Gap/difference “Unlike my grand kids, I wasn’t lucky enough to be born in an era when having braces and straightening teeth is commonplace. But I don’t care or mind at all!” –F1</p>

<p>commonplace. But I don't care or mind at all!" – F1</p> <p>"When we 're socializing, the main concern is bad breath. Bad breath may indicate some problem with our general health. We should see our doctor to deal the potential health problem."- M1</p> <p>" Sometimes I use denture cleanser to get rid if stains on the dentures. Some people cannot tell the difference between my denture and natural teeth! (laughter)" – M1</p> <p>" I had the front bridge made mainly for appearance because I didn't like the missing tooth look. I don't believe in doing it for luck & fortune. I'm a Christian and believe in Jesus Christ. I don't believe in these old Chinese tales" – F2</p> <p>"I strongly favour overall health over appearance. Appearance is mostly cosmetic and superficial. If you're in poor health, appearance is nothing!" – M3</p> <p>"deal with the pain quietly and leave it alone if there is no pain".</p> <p>My family's attitude about the mouth was "deal with the pain quietly and leave it alone if there is no pain".- F1</p>	
<p>Behaviors, Habits:</p> <p>Hygiene</p> <p>"The advantage of having full dentures is they look good and are easy to clean." – M1</p> <p>Herbal medicine/ Traditional Chinese Medicine</p> <p>"If we had a toothache, the elders might suggest taking some Chinese herbal tea or rinse with salted water." – F1</p> <p>"As a child, my parents would take my loose tooth out by tying it onto a string and pulled it out!" – F1</p> <p>"Traditional Chinese medicine always talks about 'hot & cold chi' and is more conservative in its treatment" – F1</p> <p>M3: I strongly favor overall health over appearance. Appearance is mostly cosmetic and superficial. If you're in poor health,</p>	<p>Factors influencing behaviors and habits</p> <p>Culture & Acculturation</p> <p>"In these few decades of my life, I made it a habit of seeing a dentist regularly so that any of my dental needs were promptly taken care for. And I also kept up with brushing and flossing diligently, so I rarely have any tooth or mouth problems." – F2</p> <p>"I'm a Christian and believe in Jesus Christ. I don't believe in these old Chinese tales!" –F2</p> <p>Traditional health beliefs</p> <p>Traditional Chinese Medicine vs Western Medicine</p> <p>"People who believe in TCM take a more MACRO approach on the mouth or the body as</p>

appearance is nothing!

Traditional food/drink as medicine

“I found that when I had more “hot chi” in my body, my denture support was also affected and became more swollen or unstable. I usually drink some gin sang tea to “cool” my body down. And for my diet, I may switch to rice soup or congee as comfort food.” – M1

Pain control

“I don’t see a dentist regularly; I only see a dentist when I’m in great dental pain or discomfort.”—F1

“A simple way for a toothache or gum problem was warm salt water rinse or drink. A simple way to get rid of a loose tooth is to tie it to a door knob and remove it with a swinging of the door. “ – M1

a whole, whereas I take a more MICRO view and deal with the tooth or gum. People who take the macro view (TCM) can interpret the symptoms of the gum as coming from many different sources. Whereas people like myself who take the micro view (current Western medicine) will look at the gum area as the initial source of the signs and symptoms and try to do something at the gum level rather than drinking herbal tea to ‘cool’ the body.” – M2

“I was educated to accept Western medicine as more advanced than TCM. So, I have more faith in Western medicine” – M3

Cost

“Imagine even for basic dental cleaning, the cost can be 100-150 dollars. Just for my husband and I, we’ll be looking at around 300 dollars each time, not a small sum for us. So we just do our best at home with our oral hygiene routine.” – F1

“But now that I’m retired from the regular work force, I don’t have a dental plan anymore. So I’m a lot more cautious how I spend my dental dollars.” – M2

“For the dental visits, I usually didn’t ask for the total cost of the visit when I was covered by a dental plan. But now, I would routinely ask for the estimate before I started the dental treatment because there are alternative choices.” –M2

“Now that I’m a senior, I’ve retired with some financial security; I don’t worry about spending money to fix my teeth & keep them healthy.” – F2

“I saw a dentist for the first time in Canada. That dental visit caused me more than two hundred dollars. Very expensive! Then I had a follow up visit during which I paid another 200 dollars. All together it caused me more than 400 Canadian dollars for my first dental cleaning in Canada! Compared with my free dental visits in Hong Kong, it’s very expensive!”- F3

	<p>“ I was referred by my dentist to a gum specialist who required me to have several sessions of deep cleaning of a few teeth at a time with freezing. Each appointment caused me about 100 -200 dollars each time. The whole specialist appointments caused me more than 1000 dollars!” – F3</p> <p>“ by comparing the income level of an average worker of Brunei and Canada, the amount he has to pay for his dental work in Brunei is still a lot cheaper than what he pay for the similar work done in Canada” – M3</p>
<p>Misc. (free node) Breast cancer –F1 Advocacy for subsidized dental services for seniors – F1 Special need groups - “I think the governmental agency should help set up a dental health network that can allow people in need to access the network for dental services.” - M2 Prostate cancer – M1</p>	

Appendix 3

Figures

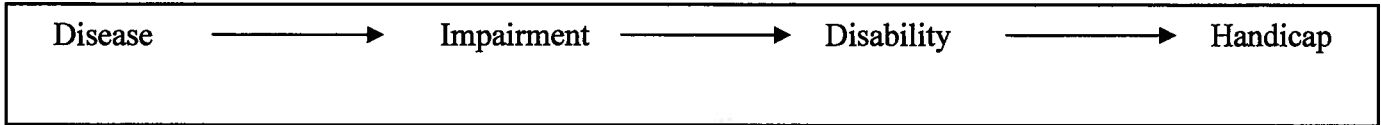


Figure 1. The sequence underlying illness-related phenomena (ICIDH - WHO 1980, adapted from MacEntee 1997).

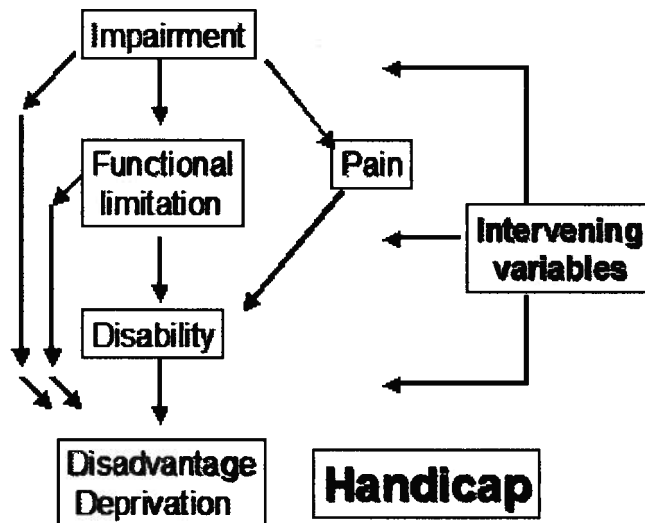


Figure 2. The model of oral health proposed by David Locker (1988).

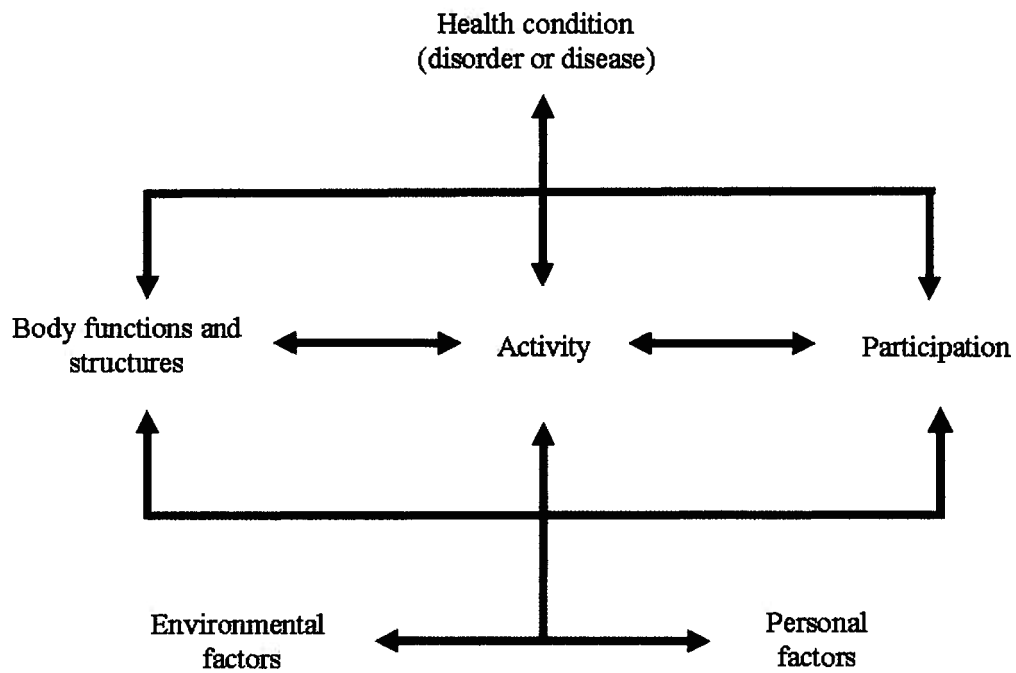


Figure 3. The ICF conceptual framework (WHO, 2001) (adapted from MacEntee 2006)

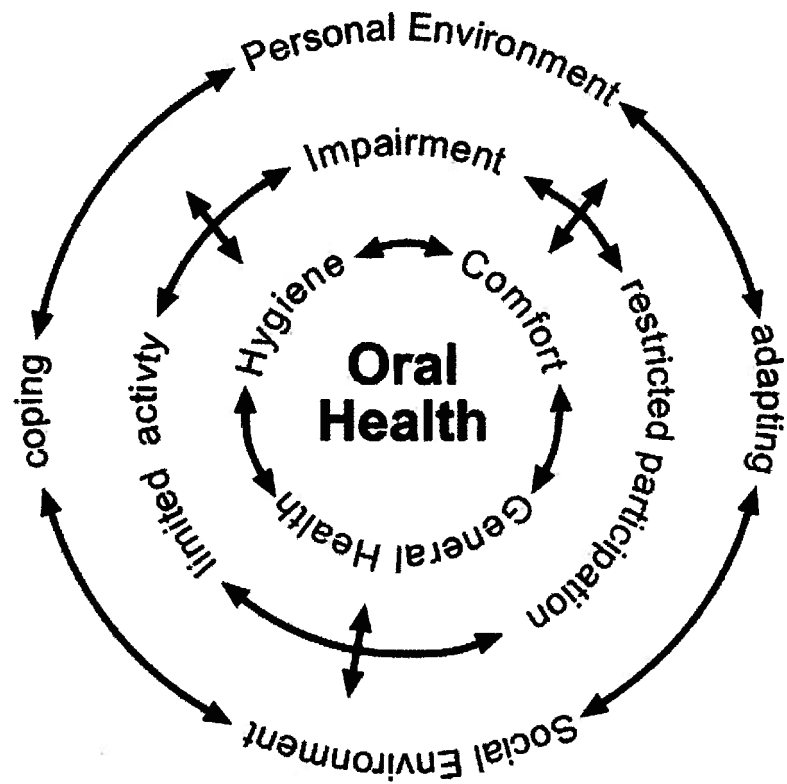


Figure 4. Interactive relationships between the major constituents of an existential model of oral health (MacEntee 2006)

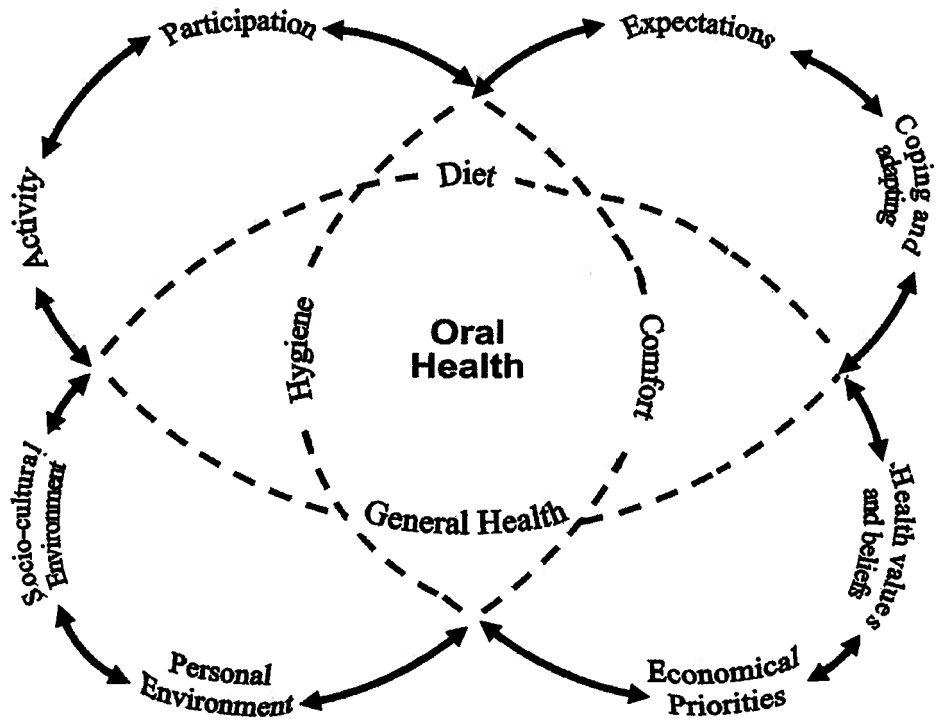


Figure 5. Brondani's re(de)efined model of oral health (Brondani 2007)

Appendix 4

Forms

CONSENT FORM (2003)

RESEARCH TITLE: Exploring the oral health beliefs of Chinese-Canadian seniors living in a long-term care home in Vancouver Chinatown

Principal Investigator: Deborah O'Connor, PhD, RSW

School of Social Work and Family Studies, UBC

Phone: 604-xxx-xxxx

Faculty Advisor: Michael MacEntee, BDS, PhD

Co-investigator: Nelson Hui, DDS

Faculty of Dentistry, UBC

Phone: 604-xxx-xxxx

Dear (Participant):

PURPOSE

The purpose of this study is to explore the oral health of Chinese-Canadian seniors living in a long-term care facility in Vancouver Chinatown. It is being conducted as part of the requirements for a graduate course in qualitative research.

STUDY PROCEDURE

You will be asked to participate in a personal interview about oral health for seniors. The one-hour interview will focus on exploring your personal oral hygiene habits, your diet and nutritional habits and your experiences in seeking care from dental professionals. You will be asked to describe the challenges and barriers that you have faced while seeking dental treatment.

CONFIDENTIALITY

Please note that you are under no obligation to participate in this study. If you choose to participate, you can withdraw or ignore questions at any time without consequences. Your identity will not be revealed in any of the reports in the completed study. Communication in scientific reports will identify the program and individual participants only by a code known to the investigators. Information you give will be stored confidentially and under no circumstances will it be revealed to other staff members of the study without your express wish and instructions. Tapes and transcripts of interviews will be stored in a locked filing cabinet at the university and will be destroyed after five years.

REMUNERATION/COMPENSATION

No monetary compensation will be given for your participation in this study. A gift package will be offered to all participants at the end of the study.

CONTACT FOR INFORMATION ABOUT THE STUDY

If you have any questions or want to have further information with respect to this study, you may contact:

Dr. Deborah O'Connor

Phone: 604-xxx-xxxx

Or

Dr. Nelson Hui

Phone: 604-xxx-xxxx

CONTACT FOR INFORMATION ABOUT THE RIGHTS OF RESEARCH SUBJECTS

If you have any concerns about your rights as a research subject, you may contact the Research Subject Information Line in the UBC Office of Research Services at 604-822-8598.

I understand that my participation in this study is entirely voluntary. I have received a copy of this consent form for my records. I consent to participation in this study and agree to have the interview audio-taped. I also give permission for the principal investigator to use the information gathered as part of a larger study focused on the same issue.

Participant: _____ (Please print)

Signature: _____ Date _____

Witness: _____ (Please print)

Signature _____ Date _____

CONSENT FORM (2007)

Project Title: THE SIGNIFICANCE OF THE MOUTH IN THE LIVES OF ELDERLY CHINESE IMMIGRANTS IN VANCOUVER

Principal Investigator: Michael I. MacEntee
Professor, Department of Oral Health Sciences
UBC Faculty of Dentistry
Ph: 604-xxx-xxxx

Co-investigator: Nelson T. A. Hui
MSc Student, Department of Oral Health Sciences
Faculty of Dentistry, UBC
Ph: 604-xxx-xxxx

The following information has been provided so that you can make an informed decision about your willingness to give consent to participate in this study.

Purpose: The purpose of this study is to identify problems in the mouth associated with advancing age among Chinese seniors, and the physical, social and cultural factors that might contribute to these problems. This study is part of a graduate degree requirement.

Procedure: You will be asked to participate in two loosely structured interviews at about one hour each at your convenience. The first personal interview is expected to last about 60 minutes. The interviewer will ask questions about your background and general health, along with your opinions on the health and comfort of my mouth. At a later date, you will be invited to participate in a 30 minute follow-up interview to discuss and clarify the findings of the study. With your permission, the interviews will be taped and you will receive a copy of the transcript so that you have opportunity to see that we have recorded your opinions correctly.

Confidentiality: Your identity will not be revealed in any reports of the completed study. Communications in reports will identify the facility and individual participants by a code known

only to the investigators. The information you give will be stored confidentially and under no circumstances will it be revealed to anyone without your expressed wish and instructions. Tapes and transcripts of interviews will be stored securely in a locked filing cabinet at the university until they are destroyed after five years.

Risks: We know of no identifiable risk associated with this study.

Contact for information about the study:

If you have any questions or desire further information with respect to this study, you may contact: Dr .Michael MacEntee at 604-822-8879 or Ms. Judy Laird, our research coordinator, at 604-822-5064.

Contact for information about the rights of research subjects:

If you have any concerns about your rights as a research subject, you may contact the Research Subject Information Line in the UBC Office of Research Services at 604-822-8598

Consent:

Your participation in this study is entirely voluntary and you may refuse to participate or withdraw from the study at any time without consequence.

Your signature below indicates that you have received a copy of this consent form for your own records.

Your signature indicates that you consent to participate in this study. You are willing to have your interview conversation audio-taped and give permission for the principal investigator to use the information you are providing as part of a larger study focused on the same issue.

Participant's signature

Date

Printed name of the participant signing above

Principal Investigator's signature

Date