CHAPTER II

LITERATURE REVIEW

In reviewing the literature from this study was to point out the importance towards developing that the Thai Family Health Routines Scale needs. All aspects and facts about routine health behaviors of Thai family, and how to develop family measure were to be discussed on the topics of Thai family, family health, family health routines, family health routines in Thai family, existing family instrument related to family health, and scale development.

Thai family

1. Definition of family and Thai family

Definitions of "family" differ depending on culture, theoretical and discipline oriented. In perspective of family nursing, family refers to a group of persons who bound by strong emotional ties, a sense of belonging, and fervor for involvement in the lives of one another, a group of persons who join together by bonds of sharing and emotional closeness, identify themselves as being part of the family (Friedman, 1997). The members of the family are self-defined (Hanson, 2001).

Based on system theory, Friedemann (1995) noted that family is a unit composing of subsystems defined by emotional bonds and responsibilities. Individuals who comprise the family unit have the relationships with the members, family, and environment (Friedemann, 1995). Denham (2003a) defined meaning of family based on contextual perspective of the Family Health Model as a collection of individual with a general commitment to the well-being of one another and who label themselves as family.

By Thai context, family refers to persons living together such as husband, wife, and son (Thai standard dictionary, 1982). The Ministry of Social Development and Human Security (2004) defined a family as the group of persons who live together, have emotional and mental relations including social and economic dependency, and have legal relationship.

In summary, family has been identified by many authors as a group of persons who tie together by special conditions, and could be defined as a basic social group, spousal unit, cohabitation unit, or parent-child unit. The proper definition for this study could be based on the contextual perspective of The Family Health Model that emphasizes Thai context. Thai family is referred to "a group of at least two persons or more living together with a general commitment to the well-being of one another and label themselves as Thai family".

2. Characteristic of Thai family

2.1 Traditional family

Major characteristics of traditional Thai family was described by Spielmann (1992; 1994), an expert in Thai family.

The reference to traditional Thai family is a family with its members living together in extended families with warm relationships. They had established and maintained close ties of kinship system. Parents brought up their own children. Their relationships were intimacies. Children were the "golden chains" to hold the generations together. The parents could rely upon their children who were supposed to take good care of them in return. On the contrary, children deserved protection and being looking after as well as they would be taught to pay respect for seniority.

The dominant Thai value system and its associated set of behavior patterns derived from Buddhist doctrine and were absorbed since early childhood. One important value is that children act in obedience to adults, while the children learn to behave properly with elderly persons. Children have to pay gratitude to parents, who gave them birth, cared for, and raised them (Somporn Thepsita, 1995). Children have to honor parents and care for them in return when they grow old. The expected care for the old parents was a fundamental reason for having children, because it provided comfort and security in old age. Particularly, there have been no welfare departments to serve the needs for all.

2.2 Modern Thai family

The effect by changes of advance technology under influences of modernization, the structure and values in Thai families have obviously been changed (Rooja Phuphibool et al. 1999; Somporn Thepsita, 1995). The characteristics of modern Thai families were notified by Ministry of Social Development and Human Security (Office of Women's Affairs and the Family Institution, 2004).

2.2.1 Thai rural families

According to rural context, there are two types of family, nuclear and extended family. The extended families composed of at least three generations living together, grand parents, parents, and children. Generally, rural families still establish and maintain close relationship as strong kinship system. Most families lived, worked together and flocked socially together all the way throughout their lives. An important value was obedience to adults. This is important for the children to learn to behave appropriately towards adults.

Over the past decades, the social values of Thai rural family has continued to change due to the factors of urbanization and modernization

together including the globalization effects. There are many changes in the way of thinking of the rural families. The families believe that money and possessions are more important than religion. These changes continuously weaken the general aspect of living pattern. Socialization role in inculcating children with the socio-cultural values and many other good things is also affected. At least three aspects of the rural families are worsened. The first is the composition or characteristics of the family. The second is the relation among families and family members. And the third is role and responsibility in the family. In this case, the parents are not able to build close ties with their own children, and the children themselves did not gain enough experiences from their parental role. The children, without closely watch, may spend their time trying new things such as drug addictions and indecent acts under the influences of their peers and bad models.

2.2.2 Thai urban families

Thai urban families may truly be different from rural families in some certain ways. Urbanization factor, modernization factor, globalization and materialistic values have strongly impacted urban families in every aspect of family life.

The context of Thai urban families describes the nuclear type of families that consists of father, mother, and children, or a parent without children. The other forms of the nuclear type of families, mother-head family among single-parent type, are found prominent. Moreover, unmarried and remarried families are also increasing. It concludes that the nuclear type of families with variations in composition is the prominent trend in urban setting. In regarding to the structure of the family, we have to separate the urban family structure into 2 groups.

The first group consists of families which have already been well established, and the second group consists of families which have just migrated from rural village to town.

The migrating families are regarded as poor economically. As their work goes on, they keep contacts with their family at home. They've been tied up with the children under the care of their grandparents, but this condition may cause the migrant family structure loose and unstable. All is due to the fact that they have to change their way of living and to fight for family survival in the new highly competitive place. They have to adjust a lot to the urbanized and modernized atmosphere. Furthermore, the economic crisis could cause many families with new difficulty in such things. Many families have to face unemployment conditions resulting in increasing family stress, illness and quarrels. Consequently all family members mental health are getting worse yielding the use of aggression to be one another and more use of unhealthy means in coping with the problems on their own.

To fulfill basic needs for children is the main function for urban families. Parents are the ones who have rights and responsibility to their own children. The family has duties as caring role, protection role, a role of transmitting things to the young, promoting them to grow up as healthy persons. Yet all these important roles are diminishing by the parents themselves because they give more significance to materials and consumption values than the development of human beings. Actually, the couple would work to support family's economic situation. Researches on mothers' employment outside their home reveal a significant result that such employment of mother has effects on family relations. Both of them have less time for each other. Especially the wife has to perform dual roles, working outside home and taking care of children and family. In the case that both father and mother have to work hard outside the home due to economic pressure, children have been left in

the care of the babysitter almost the whole day. Young children often learn and imitate quickly from the babysitter especially the usage of the improper language pronunciation and vocabulary development. One research result reveals the danger of family stress and its effect on relations both within the family and outside the family and it is found to be a source of different forms of aggression. These kinds of problem may not occur if the parents would spend more time with their young children when available.

3. The trends of Thai family situation

Presently, Thai families have been changing in structures, relationships among members, and health behaviors. These changes also affect family life patterns, such as family function, family relations, inculcation and transmission of values virtues and morality, behavioral control problems, and family resource management. They have been described by many authors, and could be concluded as follows (Office of Women's Affairs and the Family Institution, 2004; Somporn Thepsita, 1995; Srisawang Puorwongpat, 1994):

3.1 The families realized less of the value of children.

3.2 It is also found that the close tie between parents and children is diminished and terminated by economic reasons. The psychological tie or strength among parents and children is not as much as in the past.

3.3 The grandparent role which transmits many precious socio-cultural values is changed to childrearing role which transmit material value.

3.4 The relations between young parents and their own parents are accordingly lessened.

3.5 Family values which emphasize on honesty and loyalty between the couple are taken place by putting values on sexual freedom.

3.6 The changing concept of women and their status in the process of development instead of being confined only with family roles.

3.7 The interdependence among family members is declining because of decreasing of the family ability in economic self-dependence due to economic crisis.

In the total picture of Thai families, there is a great change in former pattern of living from simplistic and sufficient consumption to a new living pattern dictated by the needs in material consumption and success by means of high competition more than by spiritual-psychological values and virtues. Thai families tend to be highly stressful and tension due to very hard working to satisfy their insufficient and endless needs. Accordingly, the proper child rearing practices, psychological bonds, and mutual concern among family members decrease and change rapidly into materialistic forms. Moreover, the advances of information technology provide easy ways for children to access to unscreened media that bring dangerous effects to the families. The necessary adjustment has to be made to preserve the family stability and security for its members.

It is certain that Thai families are in jeopardy. They have structurally changed from extended family to recent non-traditional family forms, such as nuclear family, single parent family. The relationships between families and other traditional institutions such as religion and culture have been declined (Aimpradith, 1996). The families are experiencing more serious problems of domestic relationship and risk health behaviors (Ministry of Social Development and Human Security, 2004; Wibulpolprasert et al, 2002). There are increasing rates of divorce, child and woman abuse, neglected child, drug addiction, and unwanted pregnancy (Aimpradith, 1996; Limanonda, 1998; Spielmann, 1992). In addition, preventable diseases such as HIV, hypertension and

coronary heart disease, renal failure, and diabetes are still increasing as significant causes of death (Secretary of Ministry of Public Health Office, 1998-2002). All of these problems have been associated with unhealthy families (Limanonda, 1998; Suthisorn, 1997).

4. Desired Thai families

The changing under such influences of Thai families, all components of family health routines are then needed to be assessed. Many government offices and researcher have been identified indicators and characteristics of a desired family that they assumed a healthy family such as Well-being Family (Department of Public Welfare, 1996), Indicators of Desired Thai Family (Vichai Tienghavon and others, 1999), Indicators of Healthy family and Indicators of Healthy Couple (Porapan Punyaratabandhu and others, 2005), Indicators of Family Happiness (Supat Suradanai, 2001), Family Well-being Index (National Institute of Child and Family Development, 2002), Desired Thai Family (Women's Affairs and Family Development, 1999; United Nation, 1994); and Excellent Development Family (The Community Department, 1998). The characteristics and indicators of desired Thai family have been used as the guideline for developing the family in recent years. Vicahi Tienghavon, and others (1999) proposed that dimensions of desired Thai family should include aspects of family social, family health, family economic, family culture, and family social support which are compromised to some characteristics of traditional Thai families.

Characteristics of desired Thai families, after being reported, are to be concluded. The desired Thai family is the family in which members have good health, self-care practices, and know how to take care of themselves and their accommodations. In the families, they are free from violence and abuse. All members

have own responsibilities and always spend quality time together. They can express love, fondness and care for each other. All members link and join together by love, intimacy, connectedness, and effective communication. They are sympathy, and willing to help each other to solve any problems by using creative problem solving. Within the family, there is no child violated or abused, and there is no child runs away from home. The older and disabled persons in the family are taken care of and paid attention from their members.

Family leader of desired Thai families such as father, mother or senior members have honor occupation with a balance between income and payment, and help each other to improve their living status by having permanent, clean, and safe resident. All members have enough clean water to drink; have no disturbance, dust, bad smell, and pollution, and free from accident. Parents are good models of living in moral, ethics, and justice for children. They teach children a quality of being wise, and provide them with education. All members have conscience and useful behavior for their community. Finally, they would have to obey the law and would be within their rights.

In conclusion, the characteristics of desired Thai family represent complex components including family context, family functioning, and health practices that can be described by the Family Health Model. Some characteristics of desired Thai family reflect behaviors of the family congruence with concept of family health routines. Therefore, helping Thai family constitutes to achieve the desired characteristics while preserving Thai culture, family health routines should be considered as an important area for assessing, and intervening by nurses.

Family health

1. Definition of family health

The term family health is frequently used, but seldom defined (Friedman, 1997). Family health, a variable showing real outcome of family nursing practices, is seldom declared its operational definition (Gilliss, 1991; Woods & Lewis, 1992).

Definitions of family health vary, depending on disciplines or theoretical perspective that the authors adopt. In nursing science, the definitions of family health depend on professional perspectives, literature review, nursing theories and qualitative research findings. Definitions of family health are emphasized on live experience (Bomar,1996; Miller, 1974; Astedt-Kurki, 1999), dynamic processes of interaction within the family and with the environment outside the family (Anderson and Tomlinson, 1992; Bomar, 1996; Friedmann, 1989; Friedman, 1997; Roy, 1984), a dynamic changing relative state of well-being, which includes the biological, psychological, spiritual, sociological, and cultural factors of family system (Johnson, 1984; Loveland-Cherry, 1989; Newman, 1983; Week and O'Connor, 1994), family structure, function, and developmental tasks (Wright and Leahey, 1984), and a dynamic process of household productions of health (Denham, 2003a).

It was found that existing definitions of family health based on nursing perspective incorporated a functioning focus, biopsychosocial focus, aspect of wellness, and environmental interaction affected both family members and the family unit (Anderson and Tomlinson, 1992) into their definitions. Most definitions of family health in nursing are dialectic, abstract and difficult to identify operational definition

(Friedman, 1997). From many definitions it could be concluded that family health refers to a dynamic process of interaction and health care function related to bio-psycho-social-spiritual wellness and illness of persons who live together as a unit in everyday life.

2. The Family Health Model

The Family Health Model (Denham, 2003a), which its structural domain was used as the conceptual framework of this study, defined family health as a process of dynamic household productions influenced by embedded environment, multimember interactions, and health-related behaviors in which members use to attain, maintain, or regain the health of individual members and the whole family (Denham, 2002; 2003). In The Family Health Model (Figure 1), there are three correlated domains; contextual, functional, and structural, used to describe phenomenon of family health in different perspectives (Denham, 2002; 2003a, 2003b).

2.1 The structural domain provides holistic perspective to describe family health as patterns of behavior relevant to health outcomes in term of family health routines (Denham, 2003a). Family health routine refers to regular health behaviors of individual and collective members occurring when family members interact with one another and with the embedded context that are important to family identity and influence health outcomes of the family (Denham, 1995). The structural domain provides six health routines; self-care, safety and prevention, mental health behaviors, family care, illness care, and family caregiving routines that family members use to attain, regain, maintain, or promote health of individual members and health of the whole family.

2.2 The contextual domain provides holistic perspective to described family health as internal and external environments (e.g. family members

and their characteristics, household, neighborhoods, communities, and the larger society) that are capable of affecting individual and family health risks and potentials. Family health as a context refers to member's experiences over time within households, neighborhoods, communities, and the larger society. These experiences are reflected in the ways family members act on their embedded context that has potential to strengthen, weaken, maintain, sustain, or destroy them. The embedded context includes membership of unique families, history, society, policy, law, ethics, traditions, culture, and time pertinent to health. The contextual domain could be described phenomena of Thai family health which have been influenced by changing in socio-cultural, economic, in science, and technology advances.

2.3 The functional domain provides holistic perspective to described family health as bi-directional person-to-person interactions (e.g., roles, values, communication, decision making, coping, etc.) that occur within the family context and influences health outcomes of the individual members and family as a whole. Family health as the functional domain refers to family functioning that includes the ways family members learn about health, care for illness needs, assist one another to optimize health potentials, and use resources to balance the often-conflicting needs of diverse members residing in the household. The functional domain has seven core processes; caregiving, cathexis, celebration, change, communication, connectedness, and coordination processes. The functional domain could be explained the ways individual family members have been constructed, reconstruct, or deconstruct their routine health behavior which could be destroyed, maintain, or promote their health.

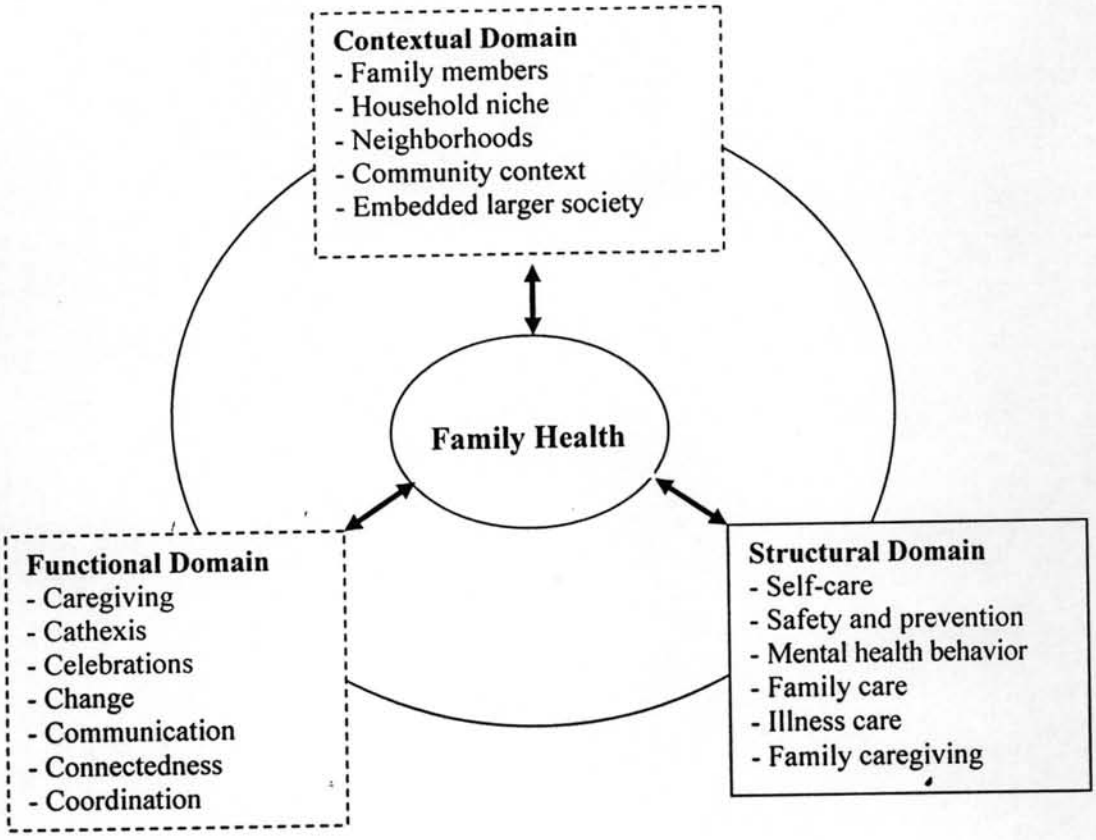

Figure 2 The Family Health Model

Family health routines as a measured concept of family health

Family health is the optimal goal of nursing interventions, but the concept of family health is not clear and confused (Bomar, 1996; Friedman, 1997). Definitions of family health are complex and abstract, and its construct lacks consensus and precision to measure (Anderson and Tomlinson, 1992; Bomar, 1996). Measuring family health directly is a difficult task.

To solve those problems, the structural domain of the Family Health Model was selected as the framework for developing a family measure, the Thai Family Health Routines Scale. The reason is that the structural domain proposed six routine health behaviors as the concrete way to assess family health (Denham, 2002).

We treat family life dynamic, but most seek stability or homeostasis in health becoming more ritualized and constant. Whenever individual family members encounter new information, acquire skills that change priori knowledge, face unpredictable life events or when ambiguity prevails, the potential for constructions of new patterns of behavior occur (Denham, 2003a). When new pattern behaviors are constructed or accommodated from usual behavior, they also, in turn, directly effect to health of individual and collective members of the family. Family health routines provide the meaningful way directing behaviors within the family.

Family measures used in nursing research requires instruments that reflect real outcomes of family health. Woods and Lewis (1992) suggested that the essential tasks in resolving such problems of family measures should initially begin with concepts related to family phenomenon through a combination of empirical and theoretical operations. A certain question has places researchers in something of dilemma whether who speaks for the family and their reliability for the group. Mothers' prior answers were identified as reliable when reports were later checked with members not present (Denham, 1999d).

The Family Health Model proposed that mothers are the key persons since they often assume major responsibilities for family health; play key roles in health concerns; teaching, directing, and overseeing health behaviors; coordinating and supervising activities associated with health needs; and to provide most care giving tasks. Mothers are often the primary health-care providers, medical consultants, and gatekeepers for health-care services, as well as being most accountable for socialization needs related to health (Denham, 2002; 2003a) In ethnographic studies by Denham

(1997; 1999a; 1999b; 1999c), mothers' consistent ability to report and recall health behaviors for others made them compelling information sources about family routines (Denham, 2002). Therefore, mothers or wives are appropriately assumed to be the representative of their family for collecting data on family health routines.

In Thai context, family health is rarely identified. There are many authors identified definition of quality family (Krabi cholavich, 2000), well-being family (Nittaya Khochapakdee et al. 2002), warmth family (Titikalaya Wangcharoen, 2000), and desired family (Vichai Tienghavon, 1999) which assumed to represent characteristics of a healthy family. There is no definition and components of family health based on context of Thai family. Measuring family health based on context of Thai family in this study, family health routines was used as the conceptual framework to identify routine health behavior of Thai family from the existing knowledge and in-depth interview with Thai families.

Family health routines

The concept of family health routines has recently been first introduced in nursing literature (Denham, 1997, 1999a, 1999b, 1999c, 2002a, 2002b, 2003a, 2003b). This concept has been interested in nursing as the potential way to describe, explain, and predict health behaviors of multiple family members (Denham, 2003b).

1. Characteristics of family health routines

Family health routines themselves have been described as "patterns of dynamic behaviors, relevant to individual and family health, that are rather consistently adhered to by individuals, family subsystems, and families within a household niche and in relation to larger contextual system" (Denham, 2003: 277). Family health routines

were complex and evolving behavioral patterns that family members participated in with great regularity and consistency. These patterns are multimember interactions of which individuals describe their own and others' daily health behaviors (Denham, 1999a). They are repetitive behaviors of individual and collective members of which they do to regain, sustain, or promote health of individual members and a whole family. That is, some health routines are individual activities, while others are cooperative interactions of multiple members (Denham, 1997). Family health routines are dynamic, that is, they can be constructed, reconstructed, and deconstructed over time when family members interact with one another and with the embedded context, such as extended families, peers, friends, others, and larger society (Denham, 2002a).

Family health routines could also be described as the specific regular behaviors of which family members structure within their daily lives that are directly linked to health outcome. Family members daily use the health routines to translate individual health beliefs, values, and knowledge into structured regular behaviors to support health processes relating to child and family development; avoid illness, disease, and injuries; attain, sustain, or regain member health; communicate with health experts; obtain and distribute family resources; and construct family health paradigms (Denham, 1999a, 2002a). Family health routines have potentially increase health and wellness as well as protected members against sickness.

The participation by families in routines behaviors known as family health routines which identified as patterned behaviors rather consistently adhered to by family members. Individuals and families had routines with health implications that are individual practice or cooperative interactions of multiple members (Denham, 1997). Once health routines were established, family sought to retain their integrity, even though the routines were dynamics and evolving (Denham, 1997).

2. Attributes of family health routines

The characteristics of family health routines concept were identified by Denham (Denham, 2003b) as follows:

2.1 Repetitive with highly and somewhat structured actions related to health or illness that may include the entire family, dyads, or triads and have accompanying role expectations.

2.2 Changes based upon members' health or illness needs as well as household context and family functioning.

2.3 Response to valued behaviors, stress, change transitions, development, and unpredictable life events.

2.4 Planned and unplanned responses to members, health or illness needs with both intentional and unintentional aspects.

2.5 May be transmitted across generations, but patterns change based on member needs, family context, and functioning.

3. Components of family health routines

The six categories of family health routines; self-care, safety and prevention, mental health behavior, family care, family caregiving, and illness care are health routines that have potentially understanding the ways family members organize daily activities in which they respond to unique health care needs, teach them health behaviors, provide support and care, make decisions about medical treatments, adhere to medical regiments, protect themselves against environmental risks, increase household safety, and cope with stressors over time (Denham, 2003).

3.1 Self-care routine involves regular behaviors related to usual activities of daily living experienced across the life course that were initially guided and strongly reinforced by parents (Denham, 2003a). All families had health routines related to diet, hygiene, sleep and rest, physical activity and exercise, gender and sexuality aimed at maintaining and promoting health of individual members and the whole family (Denham, 2003a).

3.2 Safety and prevention routine is regular behaviors related to health protection and disease prevention in order to avoid illness and disease; avoidance in high-risk behaviors such as smoking, abuse and violence, alcohol and misuse of other substances; and efforts to prevent unintended injury includes such things as safe inside and outside the household and evading situations that might resulting in injuries (Denham, 2003a).

3.3 Mental health behavior routine is regular behaviors that are related to the individuals and families attend to self-efficacy and cope with stresses important to both individual and family identity. These routines dealt with self-esteem, personal integrity, work and play, and controlling stress (Denham, 2003a).

3.4 Family care routine is regular behaviors described as a variety of daily activities, traditional behaviors, and special celebrations that provide shared enjoyment, pleasure, and meaning to family life. These routines are usually practiced in special times when family members spent time together including such things as family fun (such as relaxation activities, hobbies, vacations), celebrations, traditions, special events, spiritual and religious practices, and having a sense of humor (Denham, 2003a).

3.5 Family caregiving routine is regular behaviors pertaining members interacted as mutual caregivers to create household environments for members' transitions and growth. Aspects of family life pertinent to family caregiving included things such as health teaching, member roles and responsibilities, balancing the use of family resources, and providing support for illness care when member needed assist to comply with medical regimens (Denham, 20023). Family caregiving required a great amount of energy and effort, regardless what the needs were.

3.6 Illness care routine is regular behaviors relating to the ways members making decisions on health care needs; choose when, where, and how to seek supportive health services; determine ways to respond to medical directives and health information; and actively provide for individual care needs. These routines are related to acute and chronic illness needs, diseases, rehabilitation, and trauma incidents. Key routine aspects are associated with decision making about how to consult for medical care, how members use health-care services, and ways prescribed medical regimens are followed (Denham, 2003).

4. Factors that affect family health routines

Families, as seen in early note, have health routines that were constructed, reconstructed, and deconstructed by collective and individual members. It is to indicate that the six routines could be changed over time in both patterned behaviors and frequency of occurring. Some routines generally appeared quite resilient, while others were more irregular and created in response to immediate needs. In addition, some routines were highly ritualistic, but others occurred less frequently (Denham, 2003).

Family health routines were characterized by highly ritualistic individual health practices that included complex patterned member interactions (Denham, 2002; 2003a). Families and members differed incompliance to specific routines, specificity of health behaviors, frequency and consistency of routines, and willingness to modify routines. Although routines are evolving, once patterns became ritualistic, members seemed likely to sustain behaviors over time and encourage member adherence (Denham, 2002).

Family health routine is accordingly very a new concept; there is no evidence to depict influenced factors. But, factors identified as reasons to modify health routines that include origin experiences, differing in individual and family values, members and social relationships, health information and knowledge, competing individual wants and needs, changing family priorities, resource availability, culture, tradition, religion, and the embedded household context (Denham, 2002; 2003a).

Family health routines in Thai family

Routine health behaviors of Thai families, as described before, have been changed and it needed to be assessed. Situation problems relating to family health routines of Thai family were proposed. Additionally, indicators and health behaviors of desired family, expected to be characteristic of healthy family, were classified into six categories.

1. Self-care routines

1.1 Dietary practices

A large number of Thai families adopt unhealthy eating habits regarding to regular eating incomplete nutrient foods (such as not eating vegetables or fruits), excessive and insufficient calories (such as fast food, junk food, crispy snack, soda, etc.), not eating breakfast, and having irregular meal times (Chuleeporn Sornsri, 1998; Porapan Punyaratabandhu et al. 2005). The regular consumption of highly commercialized snack products especially salted chips and instant noodles were high level in Thai rural area (Wirote Areekul et al. 2005). These behaviors are associated with the causes of death and chronic illness of Thai people such as hypertension and coronary health disease, renal failure, and diabetes (Ministry of Public Health, 2002).

A great number of Thai families like to buy or eat ready-made and fast foods from restaurants, fresh markets, neighbor stores, and street vendors instead of eating home-cooked food (Wibulpolprasert et al. 2002). There are many studies about unsafe foods reported that 40.4% of the ready-to-cook food sold in the market were unhygienic due to bacterial contamination, the 1993-2001 Report on Hazardous Substance Residuals in Agriculture Product and Foods shown that general foods such as vegetables, and fruits have been found pesticides and growth-stimulating substance with an unaccepted level (Department of Medical Sciences, 2001).

Healthy eating behaviors proposed by "the Basic practice guideline of the National Hygienic Principle, "the Food Based Dietary Guideline for Thai", and study on health behaviors of urban impoverished families (Darunee Jongudomkarn, 2003) as follows:

1.1.1 Eat a variety of foods from each of 5 nutrient groups; protein, carbohydrates, fat, minerals, vitamins, as well as, water and dietary fiber

1.1.2 Eat adequate amount of rice or alternative carbohydrate source

1.1.3 Eat plenty of vegetables and fruits regularly

1.1.4 Eat fish, lean meat, eggs, and legumes regularly

1.1.5 Eat a diet containing appropriate amount of fat

1.1.6 Do not eat too few or too much of certain nutrients in order to maintain proper weight

1.1.7 Drink fresh water at least 8 glasses each day

1.1.8 Have meal three times a day

1.1.9 Have meals on time

1.1.10 Buy fresh food which is clean and without dangerous chemical substance

1.1.11 Eat cooked food which is still hot

1.1.12 Eat ripe-cooked and clean food

1.1.13 Avoid eating food with preservatives, monosodium glutamate, borax, insecticide, formalin, or dye

1.1.14 Eat clean ready-cooked food which is in a clean package

1.1.15 Avoid eating crispy snack

1.1.16 Avoid eating sweet, salty and fatty foods

1.1.17 Avoid eating left over food, contaminated food from flies or ants, and black burned food

In summary, measuring dietary practices of Thai family have emphasized the way in selecting safety and nutritious food, clean cooking, storing and procuring food safety, consuming adequate meal, and snacking healthy food.

1.2 Sleep and rest patterns

Sleep is an essential function for living. Sleep fulfills several physiological needs, such as energy conservation, restoration, and protection against exhaustion (Kick, 1996). Getting enough sleep and rest, in appropriate to age, is very important for health. If sleep was interrupted, modifications were made by individuals to acquire additional rest or take a nap when they were feeling tired or sick (Denham, 1997). The amount of sleep affects the way people perform, feel, think, remember, and work. Lack of sleep increases the possibility of increased daytime sleep, which may result in a tragic automobile or work accident. It was found that students who did not have enough sleep (less than 7 hours) or sleep late (more than 2 hours) would increase daytime sleep, depressive mood, and sleep/weak behavior problems. Moreover, adolescents who do not have enough sleep, and their sleep loss interferes with daytime functioning.

Patterns for sleeping may even due to crowding in family's home, different work or school schedules, illness, or special events. Assessment of family's sleep patterns needed if any individual member has sleep trouble (Friedman, Bowden, and Jones, 2003). A survey on health status of Thai working-age population in 1996-1997 demonstrated that an average sleeping time period was 7.6 hours. Half of the working-age population spent 7-8 hours on sleeping. When they grew older, the proportion of people sleeping for more than eight hours would decrease. In regard to time

spending for recreation, it was found that each person spent two hours on average, whereas males spending more time than females.

In a brief conclusion, it is believed that both measuring sleep and rest pattern are to emphasize behaviors related to getting pleasant bedtime, enough sleep and rest, and continuity of sleep.

1.3 Hygiene care

Behaviors relating to hygiene care have reduced the possibility of infection and its spread in usually everyday life such as hand washing before meal and after toileting, using separate towels for each family member, drinking from separate cups and clean glasses, bathing and cleanliness, hygienic toileting activities, refraining from touching thing in public places and taking care with personal behaviors (Denham, 1997; Friedman, Bowden, and Jones, 2003).

A survey study on hygienic problems of Thai adolescents showed that no washing hands before eating and after excreting, not using middle spoons, not seeing a dentist regularly, and not using materials which do not contaminate the environment were respectively identified. In 1992, the National Hygienic Principle Conference proposed the Basic Practice Guideline of National Hygienic Principles related to desired behaviors of personal hygiene care as follows:

1.3.1 Take a shower at least once a day

1.3.2 Shampoo hair at least twice a week

1.3.3 Cut fingernails and toenails

1.3.4 Defecate every morning

1.3.5 Wear clean and dry clothes sufficiently warm

1.3.6 Organize personal item neatly

1.3.7 Brush teeth at least twice a day, in the morning and before going to bed

1.3.8 Brush teeth or rinse mouth after eating food

1.3.9 Avoid eating sweet candies

1.3.10 Go to see dentist at least twice a year

1.3.11 Do not cut or chew hard food or snack by teeth

1.3.12 Wash hand every time before eating and after using toilet

In summary, measuring hygiene care should emphasize behaviors aimed at reducing the possibility of infection and its spread in usually everyday life including taking a shower, dental and nail care, toilet activity, dressing, and using separate personal items.

1.4 Exercise and physical activity

Family identified exercise as an important factor for health (Denham, 1997). Meanings of exercise and physical activity are very close. Exercise means any movement of the body or parts of body for health promotion, entertainment, and socialization by using simple activities or simple rules. Examples of exercises are walking, running, swimming, aerobic dancing, weight-lifting, etc. Whereas, physical activity is lifestyle exercise that can be planed into activities of daily living such as home and work activities or body movement in daily life (Porapan Punyaratabandhu et al. 2005). In some families, father perceived their work as all the exercise they needs (Denham, 1997).

Exercise and physical activities are an important health behavior and very useful for human well-being. It was found that people who lack of physical activity and exercise are at the risk of cardiovascular diseases, diabetes, colon cancer, and other chronic diseased. Doing regular exercise helps physical

fitness including lung and circulatory function, muscle strength and flexibility, and decrease risk of chronic diseases. In addition, World Health Organization suggested that physical activity, such as cleaning house for 45-60 minutes, is very useful for health.

Although, exercise and physical activity are very important for health, a number of Thai people do not exercise, and mostly reasons are that they have no time and are not interested in exercise (Wibulpolprasert et al. 2005). The 2002 survey of the National Statistical Office found that only 29% of Thai people regularly exercised. Considering the exercise behavior based on the criteria of exercise for health, it was found that more than 60% of the people exercise more than three days a week and approximately 80-90% exercise for 30 minutes or longer each day. The criteria of exercise and physical activity for health were identified as a part of Basic Practice Guideline of National Hygienic Principle. Moreover, World Health Organization (2004) suggested types of exercises and physical activities that are useful for health. Therefore, the ways Thai family should do for exercise and physical activities were clearly identified by many evidences as follow:

1.4.1 Do exercise regularly at least three times a week

1.4.2 Do exercise and play sport appropriately with physical conditions 15-45 minutes

1.4.3 Do exercise and play sport enjoyably

1.4.5 Clean a house for 45-60 minutes

In summary, measuring exercise and physical activity should emphasize on behaviors relating to intentional activities to increase the wellness of family members and body movement in daily life that are related to housework or occupation towards the fitness physically.

1.5 Sexuality

Sexuality is patterned behaviors related to expression of sexual desires of family members. It is the sexual acts that give individual pleasure and is another element affecting families (Hanson, Gedaly-Duff, & Kaakinen, 2005).

Presently, it is been discovered that Thai males are more likely to have sex with other women who are not commercial sex workers. In particularly, Thai youth tend to have first sex with girl/boyfriends, lovers, close friends at a younger age and practice unsafe sex (Wibulpolprasert et al. 2005). It was found that high-school students had sex mostly with their lovers or boy/girlfriends without using condom because they disliked it or it was unpleasurable (Kiewkarnka, and others, 2002). Additionally, among Thai youth who have had sex, 12% of them never used condoms when having sex with a stranger as they did not have any condom at that time (Wibulpolprasert et al. 2005).

Unhealthy sexual practices are a significant health determinant in spreading sexually transmitted infections, especially HIV/AIDS and unwanted pregnancy. In Thai people, unhealthy sexual behaviors are having sex during inappropriate age, unsafe sex due to no condom use, having several sex partners, sexual abuse and violence, and commercial sex (Porapan Punyaratabandhu et al. 2005). Beside, expression of sexual desired in occupying with obscene media (e.g. printed papers, VDO tapes, VCD/DVD, internet, etc.) resulting in low work performance or study achievement, is also mentioned. The Indicators of Healthy Couple (Porapan Punyaratabandhu et al. 2005), Happy Family identified desired characteristics of Thai family related to sexuality as followings

1.5.1 Have positive attitude about their own sex and sex of the other

1.5.2 Learn about contraception, pregnancy that appropriate in time, sexual transmitted infections and preventing method

1.5.3 Have good sexual intercourse with spouse

1.5.4 Have knowledge about reproduction

1.5.5 Have good reproductive behaviors

1.5.6 Spouse whose age between 15-44 years should use contraceptive method

In summary, measuring degree in sexuality should emphasized behaviors related to expression of sexual desires involving satisfying with sexual relationship with each other, preventing unwanted pregnancy and sexual transmitted disease, and avoiding fully occupied with obscene media.

2. Safety and prevention routines

Characteristics of the desired Thai family related to safety and prevention routines were described as having knowledge about maintaining health and preventing diseases especially AIDS prevention, preventing and keeping a household environment away from any accidental event, no child ran away from home, and no family violence (National Institute of Child and Family Development, 2002; Office of Primary Health Care, 1997-2001; Porapan Punyaratabandhu et al. 2005; Vichi Tienghavon, 1999).

2.1. Disease prevention

Prevention is a defensive posture or a set of actions that wards off specific illness conditions which threaten the quality of life or longevity (Pender, 1996: 38).

There have been many prevented infectious diseases (such as HIV/AIDS, tuberculosis, respiratory tract infection, diarrhea, dengue fever, etc.) circulatory and heart disease, cancer, diabetes, and renal failure, which are all deadly diseases. And all are due to unsafe sex practices, and unprotect themselves from sources of the diseases. These people certainly need yearly health check-up, but it is the fact that they ignore doing that (Darunee Jongudomkarn, 2003).

2.2 Health protection

Health protection is the behaviors related efforts to prevent unintended injury include such things as keeping inside and outside the house safety and evading situations that might resulting in injuries (Denham, 2003a). The primary goal of health protection is the removal or avoidance of encumbrances throughout the life cycle that may prevent the emergence of optimum health (Pender, 1986).

We could see many evidences about preventing road accident and despite the law enforcement, campaigns against no helmet and safety-belt use and alcohol drive, the rates of unsafely road using are still increasing. A survey on safety-belt use among all driver categories reveals that all drivers and passengers those who use safety belts at all times has dropped from 35.8% in 1996 to only 23.5% in 2003. The rate of constant use of helmet among motorcyclists was found to be similar to that for safety belt, that is helmet use rate has declined from 29.0% in 1996 (the year in which the Helmet Use Royal Decree was first in effect) to

only 16% in 2003. Alcohol drinking and driving is a major factor causing road traffic accidents/injuries. Even though Thailand has launched campaigns against drunk driving, having law prohibiting driving for any person with a blood alcohol concentration exceeding the specified limit, the number of drunk drivers has risen by 30%, that is rising from 40.5% in 2001 to 53.5% in 2003; males being twice more likely to do so than females.

Some indicators of the desired characteristics related to health protection were identified as saving away from any accident in the household, having correct preventing of household accident, having safety environment in the area around the house, and having stable house (Vichai Tienghavon et al. 1999), family members response to prevent accidents correctly in preventing house from fire, using and keeping poison substances/appliances/ sharp objects, and driving and crossing a road (National Institute of Child and Family Development, 2002). In addition, preventing accidents in home and public places such as practicing traffic rules, carefully using electric appliances, a gas stove, a match and sharp objects, and carefully firing joss sticks and candle were identified as the Basic Guideline Practice of National Hygienic Principle (Department of Health, 1998).

2.3 Avoidance high-risk behaviors

Thai families are smoking, drinking alcohol, gambling, and going to places at night at risk. The behaviors of urban poverty families are taking pain relieving drug, drinking alcohol in male and female, smoking, and drinking stimulant beverages during working hours (Darunee Jongudomkarn et al. 2003; Vicahi Tienghavon et al. 1999).

Today, the advances in information technology make access to mass media easily. The role of the media, such as internet, VCD, magazines, etc., could easily change values and individual styles. Each member spends free time watching televisions, listening to radio, surfing the internet, etc., so that family members have less time to join together. It is very hard for parents to give an advice or limit their children on access to mass media, and it severely impacts the family. It was found that unscreened media has been influenced on dangerously destructive behaviors of Thai children and youth such as gambling, smoking, alcohol drinking, sexual immorality and aggressive behavior (using obscene language or fight) are examples that children and youth imitate. However; most aggressive behaviors can be traced back to family in a part of safety and prevention routines of the family. For example, children gradually absorb both good and bad things from their own parent model unconsciously (Office of Women's Affairs and Family Development, 2004). The study of risk of Thai major burden of illness in 2003 showed that the main cause of illness is health behavior problems, such as unsafe sex, drinking alcohol, smoking and non-helmet (Ministry of Public Health, 2003).

Many evidences showed that Thailand has had laws on protection of health of non-smoker, against alcoholic driver and addicted substance, but Thai people still highly consume alcoholic beverages, tobacco, and addict substances (Wibulpolprasert et al. 2002; 2005). In addition, more families tend to end up with physical or mental assaults or sexual abuse whenever a problem arises within the family because of lacking family-life skill and problem-solving skills (Wibulpolprasert et al. 2005). These families are from cohabiting without any marriage registration or traditional wedding; therefore they are not prepared to live a marriage life. A survey on 2,408 women and children who were assaulted reported

that 62.8% were inflicted by their own family members such behaviors as sexually abused, mentally oppressed, physical assaulted, and forced to do hard work.

As resulted in causes of family problems, avoidance in high-risk behaviors (such as smoking, abuse and violence, alcohol and misuse of other substances) were used as significant indicators of healthy or desired family (National Institute of Child and Family Development. 2002; Office of Social Welfare, 1996; Porapan Punyaratabandhu et al. 2005; Vichai Tienghavon et al. 1999) as follows:

2.3.1 Do not smoke, do not drink alcohol, and do not use addict substances

2.3.2 Do not have sex with several partners

2.3.3 There is no family member who is alcohol or cigarette addict

2.3.4 Family member(s) is not gamble addict

2.3.5 Family members do not quarrel, punish, or fight with each other

2.3.6 Young family member(s) never run away from home

2.3.7 A women and a girl are protected from sexual abuse

2.3.8 Create values of chastity; do not have sex before appropriate time

2.3.9 Family members have no antisocial behaviors or making the family fall in trouble such as destroying public properties, penal offense, fighting, and acting as bad behaviors

The fact we have learned, safety and prevention routines should emphasize on family members in taking regular health check-up, and to keep themselves

safe from all causes mentioned above including avoidance of smoking, drinking alcohols, addicted substance, abuse, and violence.

3. Mental health behavior routines

When defined, mental health is such a positive state of well-being that it includes adaptability with social and environment, fulfilling life responsibilities, functioning effective in daily life, satisfaction with interpersonal relationships, and ability to respond to one's own need without conflict. Mental health behaviors were family routines that deal with self-esteem, personal integrity, work and play, and controlling stress and are related to the ways individual and families attend to self-efficacy and cope with stress (Denham, 2003a). The way individual and collective family members interact with each other in the family involving self-esteem, personal integrity, work and play, and cope with daily stresses can be pointed to information and suggest areas for assessing the mental health behavior routines.

3.1 Regular behavior related to self-esteem

Self-esteem is the psychological basic need of human which are much required in all people. It is connected to mental health throughout life course. Self-esteem represents emotional feeling as well as self-worth including self-esteem needs (such as independent and freedom, strength, achievement, mastery, competence, and confidence in facing with the world), and respect needs which are the needs for esteem from others (such as status, dominance, recognition, attention, importance, and appreciation) (Maslow, 1954). The ways to promote self-esteem are expression of appreciation, satisfaction and recognition of personal value with each other. This is a basic of bonding and stability of the family (Nicholas, 1983). The health behavior

related to developing and promoting self-esteem of family members are anticipatory response to member needs, allowing members to be different from one another, providing emotional support, learning various patterns of affiliation to extended family, close friends, neighbors, and outsiders, and developing family relationship that fostered both attachment and independence (Denham, 1997).

The indicators that were related to self-esteem had been identified in the Desired Family (Vichai Tienghavon et al. 1999; United Nation, 1994), the Family Well-being Index (National Institute of Child and Family Development, 2002), the Healthy Thai Couple and Family (Porapan Punyaratabandhu et al. 2005), and the Family Happiness (Supat Suradanai, 2001) as follows:

3.1.1 Some family members truly love and concern with each other about health and safety in the time of both suffering and happiness

3.1.2 All family members have senses of concern, love, coherence, and support each other

3.1.3 Family member act for each other with love, and sharing suffer and happiness reasonably

3.1.4 Family members love and trust, and appreciate with each other

3.1.5 Have mutual love and understanding

3.1.6 Be honest with spouse

3.1.7 Appreciate, accept, encourage, and support within family, forgive and understand each other, help each other whenever they are in need, and make good relationship with neighbors.

3.2. Regular behavior related to personal integrity

Personal integrity are dealt with morality or choosing to take right actions sanctioned by social policy, rules, regulations, laws, etc. of a given culture, society, or nation (Denham, 1997). It is a selection process in order to activate self-efficacy on the ways of value judgment (Bendura, 1977). Integrity was accepted as an important characteristic of the desired family, for example, showing gratitude in the ways that Thai families support their grandparents by giving money, foods, and equipments (Vichai Tienghavon et al. 1999).

Many indicators of the desired family related the ways to develop personal integrity of family members were described in Family Well-being index (National Institute of Child and Family Development, 2002), Indicators of Desired Thai Family (Vichai Tienghavon et al. 1999), and Indicators of Healthy Thai Family and Thai Couple (Porapan Punyaratabandhu et al. 2005) as follows:

3.2.1 A family that family members are praised and honored when they do goodness

3.2.2 A family that family members are warned and punished when they go wrong

3.2.3 A family that family members participate in public activities or public interests such as devoting money, belongings, or spending time to give knowledge and suggestions

3.2.4 A family that family members give help to and receive help from neighbors, temple, and community

3.2.5 A family that family members support grandparents by caring or giving money, foods, and equipments

3.2.6 A family that family members are honest with spouses and never has improper sexual intercourse with someone else.

3.2.7 A family that family members are not gambling addicts.

3.3 Regular behavior related to success in work and play

The theory of self-efficacy has been applied to vocational behaviors (Betz, 2004), and self-efficacy acts as moderator, either increasing or decreasing an individual's performance and persistence in interesting activities (Strauser and Berven, 2006). Self-efficacy expectations are self-perceptions of one's ability to execute specific actions in certain situations (Kendall and Bloomfield, 2005). A personal history of success and failure is a primary source of self-efficacy; a person with a strong sense of self-efficacy will persist in a given task until they succeed, while a person with a low sense of self-efficacy with tendency to give up on task prematurely. The experiences of success or failure in occupation, study, and play thus further enhance or decrease self-efficacy (Kendall and Bloomfield, 2005).

Work and play are functional activities that mainly occurred; at home, at work, at school and elsewhere. For adult members, employment outside the home for the family's economic good involves routines behaviors may help them have higher self-esteem (Denham, 1997). The regular behaviors related to success in outcome expectation, such as in working, studying or playing, are the ways family members attend to self-efficacy (Bandura, 1977).

For children, play is very importance for developing individuation. Children perceive their self-efficacy through accepting and following rules of playing that help them find problem solving methods when encountered

conflicts with friends. Working and education in terms of academic achievement, working on honest occupation to earn a living of family members are defined as indicators of well-being family (Department of Social Welfare, 1996), family happiness (Supat Suradanai, 2001), and desired Thai family (Vichai Tienghavon et al. 1999).

3.4 Stress management

People with high self-efficacy can cope effectively with stress (Bandura, 1997). Developing self-efficacy should focus on developing persons' skills to take control of their life or can make life change (Bandura, 1997).

Stress in everyday life comes from various sources; economic recession, being out of job, conflicts with each other within a family, or social and political problems. When stress occurs each member adapts or responds to stress in order to reduce severity and bring back mental health balance in term of stress management. The stress management can be divided stress management into problem-focused coping and a cognitive-behavioral approach that try to solve problem effectively by using problem solving skills, and emotional-focused coping; a psychological approach used to change the mood from being stressed to the feeling of relief when a problematic situation cannot be changed (Auerbuch and Gramling, 1998). Coping behaviors used to encounter with stressful situation may affect health. Coping behaviors selected may be ones that are injurious to health, for example, smoking and drug use.

It was found that skills of solving conflict within Thai family have been in jeopardy. In low-income family, what they used to reduce daily stress were chatting, doing nothing, taking sleeping pill or relaxant drug, drinking alcohol, smoking, listening to music, hobbling, doing exercise, sleeping, making a murmur, releasing stress and scolding someone else (Darunee Jongudomkarn, 2003). In addition, the ways Thai

families express their motions over their quarrel are dispute, altercation, looking down on each other, and fight due to family financial problems, carry on occupation, children's school problems, bad behaviors of children and spouse, and dishonor on their spouse (Vichai Tienghavon et al. 1999).

Problem-focused coping and emotional-focused coping known as identified as desired behaviors of National Hygienic Principle (Department of Health, 1998) and indicators of Healthy Thai Couple (Porapan Punyaratabandhu et al. 2005), Family Happiness (Supat Suradanai, 2001), Family Well-being Index (National Institute of Child and Family Development, 2002), and Well-being Family as follows:

3.4.1 Family members cooperate to solve a problem without violence

3.4.2 Do not have conflict within a family

3.4.3 Family members participate in consulting and making decision on family's significant issues

3.4.4 Family members solve a conflict by reason, and do not use physical, emotional, verbal, or sexual violence to one another

3.4.5 Family members consult with each other about solving family problems

3.4.6 Family members have hobbies, play sports, or go to see the movies

3.4.7 Family members relieve emotional pain by consulting with other trust members

Looking through informed fact, measuring mental health behavior routines should emphasize on behaviors related to the ways family members promote self-esteem, integrity, success in work, and stress management. Based on Thai culture, these

routines include such behaviors as emotional support that express love, concern, trust, respect, and appreciation for each other in either normal or critical life events; repaying parents good things in term of gratitude; providing good relationships with extended family, neighbors, and outsiders as well as volunteer works; working well on honest careers; no gambling or bad behaviors; and solving problems and conflicts effectively within the family in order to maintain healthy family.

4. Family care routines

Families have a variety of family care routines including leisure and holiday activities, traditional behaviors, special celebrations, and religious practices that provide shared enjoyment, pleasure, and meaning to family life (Denham, 2003a).

4.1. Family fun

It has been discovered that more than half of Thai head-of-families had less worthy time with their families because of hard working, stress, and very tired after work indicated that sharing pleasure time together was worsen (Social Research Institute of Chulalongkorn University, 1998). Moreover, nearly 25% of Thai families identified that their family relationships were worsen (Social Research Institute of Chulalingkorn University, 1998).

In addition, changes in the socio-economic system and influences of western culture have reshaped traditional and religious practices. Many Thai families have distanced themselves from religious principles and cultural practices in recent years and tend to be more in the future (Aimpradith, 1966). Almost 50% of the teenagers do not prepare food offering to monks and almost 70% do not

listen to a sermon in the one-month period (Boonyawongvirot et al. 2003). Weaken in religious and traditional beliefs changes Thai people from restrictive in morality to materialism which focuses on seeking more money and power. It can conclude that Thai culture, characterized as full of generosity, hospitality, and seniority respectfulness, has deteriorated (Wibulpolprasert et al. 2005).

Having worthy time together and performing family activities are very useful, not only for love and unity within the family, but also for reducing feeling lonely or neglected (Porapan Punyaratabandhu et al. 2005). Spending time to do some activities together within family, all members should be willing and satisfying to do without being forced or by chance (Nicholas, 1983). The activities that Thai family's members always spend time together are having meals, watching TV, and going outside (Vichai Tienghavon et al. 1999). The families that their members have no time staying or doing interest activities together always feel separated and distant (Porapan Punyaratabandhu et al. 2005). Activities related to family fun that create warm relationship within the family, were identified as desired behaviors of National Hygienic Principle (Department of Health, 1998) and indicators of Healthy Thai Family (Porapan Punyaratabandhu et al. 2005), Family Happiness (Supat Suradanai, 2001), and Family Well-being Index (National Institute of Child and Family Development, 2002). These behaviors were clearly identified as follows:

4.1.1 Play sports together

4.1.2 Make a trip for tour or rest together

4.1.3 Spend time and activities together

4.1.4 Have all meal together

4.1.5 Have recreation time together

4.1.6 Have chances for staying together to do some activities such as doing housework at least once a week

4.1.7 Help each other doing housework

4.1.8 Help children doing homework

4.2 Celebration, tradition and special events

Events are holidays, celebrations or traditional times when rituals occur and usual family routines were interrupted. Event contains special meaning to families, it provides value times for emotional and spiritual closeness, and appeared tied to family identity (Denham, 2002). Sharing experiences and memories are the examples demonstrated.

The events mentioned expose identity of Thai families. Such behaviors help bring closeness and bonding more closely (Porapan Punyaratabandhu et al. 2005). Thai families often participate in cultural and traditional activities including offering food to monks during New Year and Songkran festival.

Family activities related celebration and tradition were identified as indicators of Desired Thai Family (Women's Affairs and Family Development, 1997; Vichai Tienghavon et al. 1999), Family Happiness (Supat Suradanai, 2001), and Family Well-being Index (National Institute of Child and Family Development, 2002) as follows:

4.2.1 Family members participate in traditional and cultural activities with the community

4.2.2 Family members instill local culture into their children

4.2.3 Family members participate in religious activities with the community

4.2.4 Family members join together

4.2.5 Family members express love with each other on special occasions

4.2.6 Family members participate in preserving Thai art and culture

4.2.7 Family members are good models of Thai culture such as good manners, courteousness, knowing right time and place, etc.

4.3 Spiritual and religious practices

Spiritual and religious practices were viewed as an important tactic in supporting family members' mental health needs, and spiritual well-beings. They are a component of health related to the essence of life. It is a vital principle in human being (Denham, 2003a).

Spirituality is defined as whatever or whoever gives ultimate meaning and purpose in one's life that invites particular ways of being in the world towards others, oneself, and the universe; whereas, religious is defined as an affiliation or a membership in a particular faith community that shares a set of beliefs, ritual, and morals (Wright & Leahey, 2005). Spirituality is a contextual aspect defined as an innate trait of all persons that concerns connectedness to self, others, and higher power; transcendence to places and energies beyond one's own being; and as essence of meaningfulness (Denham, 2003a). Spirituality often includes religion, faith systems, sacred principles, worship, symbolic meanings, and ritual practices. Family members' spiritual and religious rituals and practices can have influences on their

ability to cope with or manage an illness or health concern (Wright & Leahey, 2005). Emotions such as fear, guilt, anger, peace, and hope can be nurtured or tempered by one's spiritual and religious beliefs and practice (Wright & Leahey, 2005).

Unconditional love, loving people as they are is a spiritual force related to healing and tapped into by practice (Hill & Smith, 1990). The families who intensely believe in whatever religious have consciousness, patient for each other, forgiveness, and can hold back their angry. The intense belief reflected by doing religious practice together, going to church or listening to a sermon together (Krabi Cholavit, 2000). People who integrate spirituality into their life by regularly doing spiritual practices are healthier in body and mind, and they often report that they feel better, peaceful or comfortable (Hill & Smith, 1985).

The ways people act as spiritual and religious practices are identified as indicators of living with moral, happiness, and peace (Vichai Tienghavon et al. 1999; Porapan Punyaratabandhu et al. 2005; Supat Suradanai, 2001).

4.3.1 Meditate, pray, and make a food offering to Buddhist's monk at least once a week

4.3.2 Make merit on holy days together; go to church, listen to a sermon, etc.

4.3.3 Make merit for parents or significant persons who passed away

4.3.4 Respect to the Buddha's image, spiritual house, objects of worship, etc. at home

4.3.5 Use religious principles in everyday life

Viewing through literature, measuring family care routines should emphasize behaviors related to the ways family members spend time together on holidays, maintaining warmth, bonding, and meaning of life. Such behaviors involve family fun, and the like including religious preference to maintain spiritual health and family wholeness as a healthy family.

5. Family caregiving routines

Family caregiving pertained to the ways members interacted as mutual caregivers (Denham, 2003a). Aspects of family life pertinent to family caregiving included things such as household task, health teaching, balancing the use of family resources, socialization, and supporting for illness care (Denham, 2003).

Cargiving is one of the tasks that the family proudly performs for its members to maintain the health of the members. Caregiving task is the provision of care for individuals in the areas of activities of daily living which carried out by the care partner. The tasks of caregiving normally consist of personal care such as shopping, transportation, financial management, meal preparation, performing household chores, providing emotional support, whereas; the tasks in illness condition consist of making observations, providing physical assistance such as bathing, dressing and grooming, toileting, and feeding, participating in the treatment regimen and calling for assistance (Grieco & Kowalski, 1987; Swanson et al. 1977).

Due to Thai culture, many indicators of desired Thai family (United Nation, 1994; Vichai Tienghavon et al. 1999), Family Happiness (Supat Suradanai, 2001), Family Well-being Index (National Institute of Child and Family Development, 2002), Healthy Thai Family (Porapan Punyaratabandhu et al. 2005), and Well-being

Family, these body units have identified tasks of family caregiving as household task, health teaching, socialization, family resource management as follows:

5.1 Household task

Household tasks are the regular behaviors related to kinship's rules such as housework and taking care of family members about living conditions (Denham, 1997). Routine tasks of family, that family members have to response together, are cooking, dish washing, laundry, house cleaning, and house repairing (Vichai Tienghavon et al. 1999). The indicators related household tasks were defined as follows:

5.1.1 Take care of the house, make it clean and sanitary

5.1.2 Take care of living conditions in everyday life related to the four requisites of life

5.1.3 Take care of and pay attention to family members' needs

5.2 Health teaching

Health teaching in Thai families, children is taught more about take care of their health including cleanliness, dental care, and eating behaviors, but less about exercise, sleep and rest, praying and meditation.

5.3. Family resources management

The indicators related to family resources management were defined as: 1) Spend money on necessary things 2) Economize and save money for the future and 3) Have expense plan

5.4 Socialization

Socialization is the regular behaviors that family do for young children to be good (Denham, 1997). A large number of Thai families (about 70%) often teach their children about making friends, avoiding addicted substances and stealing, being honest, and being economical (Vichai Tienghavon et al. 1999). Indicators of desired Thai family related to socialization were: 1) Instilling morality, conscience, and social norm into family members to be the good person, and 2) Training family members for being responsible to carry on work and study (Vichai Tienghavon et al. 1999).

5.5 Providing support for illness care

There are health recovery activities of which family members assist each other to regain usual functioning when confronted with illness or health disabilities (Denham, 1997). These behaviors are consistent with families' views that health meant not being sick and able to actively engage in life. Families use family caregiving roles, knowledge gained from the media, and contact with health care system to obtain resources for members' health recovery. The indicators related to providing support for illness care were defined as follows:

5.5.1 Take care of ill members

5.5.2 Have someone take care of ill members

5.5.3 Take care of and pay attention to elder and disabled members

5.5.4 Have necessary drug available in the house

According to the literature, family caregiving should emphasize on behaviors related to the ways family members act, nurturance, socialization, and

instillation about moral, culture and traditions into family members. These routines include health teaching, doing housework, providing basic needs for family members, balancing the use of family resources and income, and caring for the sick or disabled members.

6. Illness care routines

Illness care routines are ways of dealing with illness. They include decision making needed, use of health services, response to medical directives and health information, and actively providing support for the sick to overcome the illness conditions.

Families enacted routines are to emphasize whether who and when to go for health concerns, while routines are vary; 1) incidents requiring expert care, 2) symptom patterns to be observed while deciding, 3) illness trajectories that resolved themselves, and 4) crisis incidents that required immediate responses. Family routines resulted form childhood learning, knowledge gained form the media and other information sources, personal experiences, and advice from extended family and friends (Denham, 1997). Families differ in their knowledge about making decision on medical and health services including use of the drugs, potential side effects, interaction with other prescription drugs, and length of time products should be used prior to medical consultation.

Families are cautious in labeling symptoms as illness when they believed the body could ward off symptoms without medical intervention depending on the urgency perceived within situations (Denham, 1997). Cold symptoms may be ignored or to wait and see if families believed the body will fight them off with time (Denham, 1997). Families have criteria that they used to determine urgency for seeking medical consultation or care including symptom severity, perceived

predictability of the illness trajectory, previous experience with similar events, perceived risks in non-action, and coaching from concerning others (Denham, 1997).

There are still some families ignoring to see a doctor when experienced mild ill symptoms because they have greater concern about immediate needs rather than future consequences. They avoid seeing a doctor until the disease was too severe for effective medical interventions (Denham, 1999b). Some family still delayed seeking medical care or deny adherence to medical regimens, even when they have health information and understood the deleterious risks (Denham, 1999b).

Some families often asked the doctors questions about a broad spectrum of health care needs (Denham, 1997). Low-income families defined health status according to their ability. They are more concerned about work than health care. When being ill, family members initially "self-treat" (take non-prescription medication) rather than lose working time to visit a health care provider (Darunee Jongudomkarn, 2003).

When low-income family members became ill, they prefer to go to a doctor at health care centers near their homes and using the 30 Bahts National Health Insurance Universal Coverage. Some still use non-prescribed drugs, especially adolescents and elders because they are afraid of losing time to wait (Darunee Jongudomkarn, 2003).

Considering the indicators of desired Thai families, it was found that those indicators related to illness care routines are identified as follows:

6.1 Use basic health services

6.2 Able to access health services according to basic rights

6.3 Know resources of health services

6.4 Have health insurance or social security cards

In summary, illness care routine in term of behaviors involving the way family members deal with illness conditions were little described.

A summary of the facts on desired Thai family and the guideline practices, demonstrated characteristics, indicators, and desired behaviors that represent many aspects of healthy family, based on perspective of the structural domain of the Family Health Model, can describe phenomena of the desired Thai family that proposed by many authors and government offices. Although some pattern behaviors, gratitude and family disciplines, are specified in Thai culture, the domain provide definition of term abstractly to cover that behaviors. The gratitude can be categorized into the mental health behavior, and family discipline can be categorized into the family caregiving.

Existing family instrument related to family health concept

Scientists and clinicians have long sought to measure family health (Bomar, 1996). Many instruments were developed to measure various aspects of family health (Table 1, and 2).

Nearly most family instruments developed by sociologist, psychologist, and family therapist, have been used to measure functional and contextual domain of family health in term of family functioning and family environment (Table 1). Most instruments were developed based on various perspectives of family relationships or family processes in full function. The Family Functioning Index (Pless and Satterwhite, 1973) measured the strength of family relationships to identify families who require additional assistance. Family Environmental Scale (Moos & Moos, 1976) measured family functioning perceived by trouble families through ideal and real form. The Family APGAR (Smilkstein, 1978) measured satisfaction of individual member in

family functioning. The Family Competence Questionaire (Boardman and Zyzanski, 1982) measured competence of families with school children. The Family Assessment Device (FAD) was used to screen family functioning and distinguish healthy and unhealthy families. The Dyadic Relationship Scale (Skinner and others, 1983) was developed aimed at comparing family functioning between two parents within a dyad or individual's perspectives. The Family Dynamics Measure (Lasky et al., 1985) measured bipolar dimensions of family functioning. The Family Crisis Oriented Personal Evaluation Scale (McCubbin et al. 1987) measured problem solving skills used by families during a crisis. The Family Environmental Scale (Moos, 1994) measured quality of family environment in term of social climate of the family.

From reviewing family measures developed based on non-nurse disciplines, it was found that the measured concepts are focused on family functioning emphasizing on psychosocial-spiritual aspects of family health. Actual behaviors related to a biophysical aspect of family health were neglected, including the Family Routines Inventory. This instrument measures daily routine activities, but it does not cover routines behaviors that the family used to prevent diseases when a problem arises. In addition, most instruments established acceptable psychometric properties, accepted the earlier instrument, the Family Functioning Index, was not reported its framework and internal consistency by the author.

Many family instruments have been developed by nurses. They were to measure family health based on frameworks that borrowed from other disciplines and their own ones. The instruments that measure family functioning are Feetham Family Functioning Survey: FFFS (Robert and Feetham, 1982), Evaluation of Family Functioning Scale: EFF (Reidy and Thibaudeau, 1984), Assessment of Strategies in Families-Effectiveness: ASF-E (Friedemann, 1995; 2003), and Family Functioning

Health and Social Support: FAFHES (Astedt-Kurki et al. 1999). The measured concepts of these instruments, family functioning, focus on only psychological and spiritual aspects of family health. They lack of the biophysical aspect, except, the EFF and the FAFHES.

The family instruments developed to measure needs of family for health care, health services were Critical Care Family Needs Inventory: CCFNI (Leske, 1986), Family Needs Assessment Tool: FNAT (Rawlins, 1990), and FAMCARE scale (Kristjanson, 1993). The instruments focused on needs of family with chronic and critical ill patients who are admitted to hospitals. Home Observation of Environment Inventory: MOME (Bradley and Caldwell, 1998), this instrument was developed to measure the quality and quantity of home environment that supports cognitive, social and emotional development of children. For North Carolina Family Assessment Scale: NCFAS (1996; 2001) was developed to measure family preservation services and child welfare provided by health care centers in North Carlina. Measured concept of FAMTOOL (Weeks and O'Connor, 1997), the FAFHES (Astedt-Kurki et al. 2002), and Health Options Scale: HOS (Ford-Gilboe, 2002) represent holistic perspective of nursing on family health. These instruments were developed based on conceptual frameworks created by nurses. Item statements measuring family health are also abstract.

Table1 Family measure developed based on western culture

Measure	Framework	Description/ Construct	Reliability
Family Functioning Index: FFI (Pless and Satterwhite, 1973)	Not reported by the authors	- A 15-item self-report measures the strength of family relationships and lifestyles and identify families who require additional assistance - Constructs: 1) Intra-family communications, 2) cohesiveness, 3) decision making, 4) marital satisfaction, 5) general level of happiness, and 6) closeness in the family unit	Alpha: not reported Stability = .83
Family Environmental Scale: FES (Moos & Moos, 1976)	Family System Theory	- A 90-item self-report measures perceive family functioning of trouble families through perceived family interactions between ideal and real form - Constructs: relationship, personal growth, and system maintenance (divided into 10 subscales; expressiveness, conflict, independence, achievement, intellectual, cultural, and active recreation orientation, moral-religious emphasis, organization, and control)	Alpha of each subscale = .64-.79
Family APGAR (Smilkstein, 1978)	Structural-Functional Theory	- 5-item questionnaire measures individual member's satisfaction with family functioning - Constructs: adaptation, partnership, growth, affection, resolve	Alpha = .86 Stability = .83
Family Competence Questionnaire (Boardman and Zyzanski, 1982)	Interpersonal competence (Foote and Cottrell, 1995) based on Mead's (1934) social behaviorism theory	- A 36-item self-report measures competence of families with school children - Constructs: 1) Commitment, 2) Communication, 3) Pride in the family, 4) Self confidence, 5) Judgment, 6) Creativity-resourcefulness, and 7) Participation	Alpha = .82
Family Assessment Device: FAD (Epstein and others, 1983)	The McMaster Model of Family Functioning	- 60-item, self-report questionnaire measures family functioning to distinguish healthy and unhealthy family - Constructs: 1) problem solving, 2) communication, 3) role, 4) affective responsiveness, 5) affective involvement, 6) behavioral control, and 7) overall general functioning	Alpha of each construct = .72-.92
Family Assessment Measure Dyadic Relationship Scale : DRS (Skinner and others, 1983)	The Process Model of Family Functioning	- A 40-item self-report measures family functioning in perspectives of dyad relationships - Constructs: 1) task accomplishment, 2) role performance, 3) communication, 4) affective expression, 5) affective involvement, and 6) control values and norms	Alpha = .95

Table 1 (Continued)

Measure	Framework	Description/ Construct	Reliability
Family Routines Inventory: FRI (Jensen and others, 1983)	Semi-structure interview	- A 28-item self-report measures the extent of strength-promoting reutilization within families - Constructs: 1) Work day routines, 2) Weekend and leisure time, 3) Children's routines, 4) Parent's routines, 5) Bedtime, 6) Meals, 7) Extended family, 8) Living and homecoming, 9) Disciplinary routines, 10) Chore	Stability of raw, weighted, and frequency score =.74, .75, .79
Family Adaptability and Cohesion Evaluation Scales: FACES I,II,III,IV (Olson and others,1979; 1983; 1985; 1994)	Circumflex Model of Marital and Family System	- A 20-item questionnaire measures individual's perception of family functioning and description of their ideal family to classify families into 3 general and 16 specific types on cohesion and adaptability dimensions - Constructs: Cohesion and Adaptability	Alpha: total = .68 cohesion =.77 adaptability = .67
Family Dynamic Measure: FDM I, II (Lasky, and others, 1985; 1997)	Barnhill's Healthy Family Model (1977)	- A 66-item questionnaire measures family dynamics - Constructs: six bipolar dimensions of family life; 1) Individual & Enmeshment, 2) Mutuality & Isolation, 3) Flexibility & Rigidity, 4) Stability & Disorganization, 5) Clear communication & Unclear communication, and 6) Role reciprocity & role conflict, and	Alpha of each construct = .51-.89
Family Crisis Oriented personal Evalustion Scales: F-COPES (McCubbin and others, 1987)	Double ABCX Model of Family Adjustment and Adaptability (Family Stress Theory)	-A 29-item self-report identify problem solving and behavioral strategies used by families during a crisis - Constructs: 1) Acquiring social support, 2) Reframing, 3) Seeking spiritual support, 4) Mobilizing family to acquire and accept help, and passive appraisal	Alpha = .86 Stability = .81
Family Environment Scale: FES (Moos, 1994)	An interactive framework (Moos and Moos, 1994)	- A 90-item, true or false, self-report evaluates the social climate of the family - Constructs: 1) relationship; cohesion, expressiveness and conflict, 2) personal growth; independence, achievement, intellectual-culture, active-recreation, and moral-religious, and 3) System maintenance; organization and control	Alpha range = .68-.86 Stability range = .53-.84
Feetham Family Functioning Survey :FFFS (Robert & Feetham, 1982)	- General System Theory - Developmental Theory	- Type: a 25-item interview schedule and self-report measure parent' s satisfaction with family relationship and functioning - Constructs: three areas of family functions as family relationships between the family and broader system units, family and subsystems, and family and each individual	Alpha=.78 -.82 Stability = .85

Table 1 (Continued)

Measure	Framework	Description/Component	Reliability
Evaluation of Family functioning scale : EFF (Reidy & Thibaudeau, 1984)	The Family Coping Index (Freeman and Lowe, 1962) based on the concept of need for nursing care	- Type: a 9-statement guided to evaluate competence of the family - Constructs: 1) knowledge of health and illness, 2) ability to solve health problems and prevent complications, 3) health habits, 4) attitude to health and health services, 5) ability to cope with stressful situations, 6) family life patterns, 7) action on the physical environment, 8) knowledge and utilization of welfare resources, and 9) participation in community life	Alpha of each construct = .65-.86 Stability = .95
The Critical Care Family Needs Inventory: CCFNI (Leske, 1986)	Comprehensive literature review in crisis and human needs theories	- A 45-item self-report measures family needs, needs of relatives of critically ill patients - Constructs: needs for support, information, comfort, proximity (personal contact and remaining), and assurance (hope for desired outcomes)	Alpha = .92 Stability = 64.71%-96.08% of agreement
Family Needs Assessment Tool: FNAT (Rawlins and Rawlins, 1990)	King's Theory of Goal Attainment	- A 54-item questionnaire measures agreement needs between perception of chronically ill children's parents and nurses - Constructs: service needs, information needs, and obstacle to treatment	Alpha : no report Stability = .77
Assessment of Strategies in Families-Effectiveness : ASF-E (Friedmann, 1991; 1995; 1998)	The Framework of Systemic Organization (Friedman, 1995)	- A 25-item self-report (later version) measures quality of family process in term of family effectiveness - Constructs: 1) Stability, 2) Growth 3) Control, and 4) Connectedness/ Spirituality	Alpha of each subscale =.69-.82
FAMCARE Scale (Kristjanson, 1993)	Qualitative research to identified indicators of family care satisfaction	- A 20-item self-report measures family's satisfaction with advanced cancer care - Constructs: information giving, availability of care, psychosocial care, and physical patient care	Alpha = .93 Stability = .91
Health Options Scale: HOS (Ford-Gilboe, 1994; 2002)	The Developmental Model of Health and Nursing: DMNH (Allen and Warner, 2002)	- A 21-item self- report (later version) measures health work; the processes by which family work together to promote their health - Constructs: 1) attending; active involvement in health matters, 2) goal attainment; identification and pursuit of health goals, and 3) experimenting; working through problems using a problem-solving approach	Alpha = .88 Stability = .61
North Carolina Family Aessessment Scale: NCFAS I,II (Kirk, 1996; 2001)	Ecological Theory (Bronfenbrenner, 1979)	- A 25-item (later version) family assessment and self-report measures family preservation services and child welfare - Constructs: 1) Environment, 2) Parental capabilities, 3) Family interactions, 4) Family safety, 5) Child well-being	Range of alpha between .71-.94

Table 1 (Continued)

Measure	Framework	Description/ Construct	Reliability
FAMTOOL (Weeks & O'Connor, 1997)	Concept analysis of family + health (Weeks & O'Connor, 1994)	- A12-item self-report measures family health of family with rehabilitation patient - Constructs: work well together, communicate effectively, shared beliefs, play together, put energy into the family, value connectedness, work toward physical, emotional, social, and spiritual health, value one another, hope	Alpha = .9 Stability = 96%
The Home Observation of Environment Inventory: HOME (Bradley and Caldwell, 1998)		- A 45-item (families of infant), a 55-itme (for preschool families), and a 59-item (for families with early elementary grade children) questionnaire measures home environment; the quality and quantity of support for cognitive, social, and emotional development available to a child in home environment - Constructs: 1) emotional and verbal responsibility of parents, 2) acceptance of child, 3) organization of the physical and temporal environment, 4) provision of appropriate play materials, 5) parental involvement with child, and 6) opportunities for daily in daily stimulant	Alpha - Infant version = .44-.89 - Preschool version = .53-.39 - Elementary version = .53-.90
Family Health Perception Scale: FHP-GP (Pena, 1998)	-The Framework of Systemic Organization (Friedemann, 1995)	- A 44-item self-report with two versions (general and pregnancy) and two scale (agreement and satisfaction) measures family functioning effectiveness - Constructs: 1) coherence, 2) individuation, 3) system maintenance, and 4) system change	Alpha: .83-.91 Stability: .52-.87
Family Functioning, Health and Social support: FAFHES (Astedt-Kurki, Tarkka, Paavilainen, and Lehti, 2002)	Knowledge of family functioning, family health and social support from three Finnish nursing dissertation (Astedt-Kurki, 1992; Paavilainan, 1998; Tarkka, 1996)	- A 36-item self-report measures the association between perceive social support from nurse, family health and family functioning by family - Constructs: 1) family functioning; family relationships, structural factors in the family, and the strength of the family relationships outside the family, 2) family health; knowledge, ill-being, activities, well-being and values, and 3) social support provided by nurse; emotional support, instrumental health, and affirmation.	Alpha: - family functioning = .92 - family health = .85 - social support = .97

Some measures, developed based of Thai family context, focus on the characteristics of desired family including The Desired Thai Family Index (Vichai Tienghavon et al. 1990), Warm Family Happiness Index (Supat Suradanai, 2001), Family Well-being Index (National Institute of Child and Family Development, 2002), Healthy Thai Family and Healthy Thai Couple Index (Porpan Punyarabahandhu et al. 2005). The measures provide access to healthy family in an environmental aspect of Thai families, but they are not quite appropriate for research purposes due to no establishment of their psychometric properties. Most of these measures are survey questionnaires used to obtain both qualitative and quantitative data. Exception the Parents' Hygienic Behavior (Nongkran Poongthaisong, 2000),

The Warm Family Questionnaire (Thitikallaya Wangcharoen, 2000), the Quality Family Measure (Krabi Cholavich, 2000), the Parents' Hygienic Behavior (Nongkran Poongthaisong, 2000), and the Family Health-Related Lifestyle Questionnaire (Suree Jinruang, 2002) were used as research instrument to measure family relationship, attitude toward characteristics of quality family, desired hygienic behaviors of individual persons, and family health promoting behavior perceived by adolescents.

The family measures used as research instrument, developed through a process of scale development, and established good psychometric properties are The Chulalongkorn Family Inventory Index: CFI (Umaporn Trangkasombut, 1997) and Thai Family Functioning Scale: TFFS (Suttiamnoykul, 2002). These instruments were applied from FAD to measure family functioning of Thai families in order to distinguish healthy and unhealthy families. The CFI has been widely used in many studies of families with psychiatric patients; whereas, the TFFS, a new scale, was

used in Thai families with and without depression. The Family Health Promoting Behaviors Scale: FHPBS (Suwanpatikorn, 2001) was developed to measure health promoting behaviors of Thai families with adolescents. The measured concept of FHPBS focuses on holistic perspective of family health and related to concept of family health routines, but its items emphasized on health promoting behaviors. Therefore, behaviors which have potential for maintaining, or destroying health of individual members and the whole family may be neglected. Additionally, in the process of instrument development, the four factors of FHPBS scale described total variance of their concept only 47.1% (Suwanpatikorn, 2001).

Various family instruments have been developed. Yet to date, no instruments can measure holistic dimension of family health based on nursing perspective, appropriates for Thai family in various forms, and provides item statements which useful for identifying behavioral problems of the family. Therefore, developing a scale to measure family health routines, especially in Thai culture would be needs.

Table 2 Thai family measures

Measure	Framework	Description/Component	Reliability
Chulalongkorn Family Inventory: CFI (Trangkasombut, 1997)	McMaster Family Functioning	- A 36-item self-report measures perceive family functioning of Thai family having psychiatric problem to distinguish healthy and unhealthy family - Constructs: 1) problem solving, 2) role, 3) communication, 4) affective responsiveness, 5) affective involvement, 6) behavioral control, and 7) overall general functioning	Alpha = very high
Desired Thai family Index (Tienghavon and others, 1999)	Literature review	- Questionnaire of Desired Thai Family - Components: 1) Family social; relationships and socialization, 2) Family health; disease and chronic illness, self-care, and health insurance, 3) Family economic; housing, occupation and sufficient income, role and responsibility, 4) Family culture; value of family life and social, and preservation of energy, environment and culture, 5) Social support; public conscious mind, public behaviors	no testing
Quality Family Measure (Krabi Cholavich, 2000)	Individual interview	- A 36-item self-report measures attitude toward characteristics of quality family - Constructs: 1) All family members love, concern, and harmonize with each other, and participate in solving problems, 2) All family members spend quality time together 3) Parents and children response to their duty, carry on and honest occupation, and economize, 4) Parents or heads of family are good role model for children to make a living , 5) Having obligation to happiness and welfare together 6) Belief in religious	Alpha of 6 components = .79 - .95
Family Happiness Index (Supat Suradanai, 2001)	Individual interview	- 30 indicators of the Family Happiness Index - Dimensions: 1) Basic factors of living, 2) Economic, 3) Family living conditions, 4) Mind and spirituality, 5) Others	no testing

Table 2 (Continued)

Measure	Framework	Description/Component	Psychometric Indices
Warm Family Index (Thitikullaya Wangcharoen, 2000)	Reviewing literature on characteristics of desired Thai family	- A 25-item self-report measures family warm relationship - Constructs: 1) Spouse conflict, 2) Solving problems with fighting, 3) Quarrel, 4) Using vulgar words, 5) Angry expression	Alpha = .83
Family Well-being Index (National Institute of Child and Family Development, 2002)	Reviewing literature on characteristics of desired Thai family	- A 22-index of Family Well-being Questionnaire - Components: 1) Family form, 2) Family role and responsibility, 3) Family relationships, 4) Family's self-dependent, 5) Family's social support	no testing
Parents' Hygienic Behavior (Nongkran Poongthaisong, 2000)	National Hygienic Principle	- A 39-item self-report measure behaviors toward National Hygienic Principle of individual family members - Constructs: 1) Caring for body and things clean, 2) Dental care, 3) Washing hands before eating and after toileting, 4) Eating ripe, clean, and safety food, 5) Not smoking, drinking alcohol, using addicted substance, gambling and having sex with several partners, 6) creating warm relationship within family, 7) Preventing accidents, 8) Exercise and health check-up, 9) Rest and recreation, 10) Awareness of common and social creation	no testing
Family Health Promoting Behaviors Scale: FHPBS (Kanogwan Suwanpatikorn, 2001)	Literature review and in-depth interview	- A 40- item self-report measures health promoting behavior of Thai families with adolescents - Constructs: 1) family mental health, 2) family physical health, 3) family responsibility, and 4) family social relation	Alpha = .85 - .93 CFA: explain 47% of variance

Table 2 (Continued)

Measure	Framework	Description/Component	Psychometric Indices
Thai Family Functioning Scale: TFFS (Suttiamnoykul, 2002)	McMaster Model of Family Functioning	- 30-item self-report measures perceive family functioning of Thai adolescent with and without depression - Constructs: 1) cohesion, 2) communication/ feeling expression, and 3) problem solving	Alpha = .88 Stability=.80
Family Health-Related Lifestyle Questionnaire: FHRLQ (Suree Jinruang, 2002)	Health Promotion Model (Pender, 1996)	- A 36-item questionnaire measures awareness of family health-related lifestyle perceived by adolescents - Constructs: 1) health responsibility, 2) physical activities, 3) nutrition, 4) family support, 5) family resilience and resource, 6) stress control and management	Alpha = .76
Healthy Thai Family Index and Healthy Thai Couple (Porpan Punyarababandhu, 2005)	Reviewing literature on health problems, risk factors, and protective factors	- 18 indicators for indicating ideal healthy Thai families - 13 indicators for indicating ideal healthy Thai couples - Components: 1) Love and trust each other, 2) Spiritual commitment, 3) Sufficient economic, 4) Family wellness, 5) Good communication, 6) Family quality time together, 7) Family roles, 8) Appreciation, 9) 3-generation family, 10) Safe and clean house	No testing

Scale development

1. Conceptual Basis of Instruments

When developed, an instrument can be based on a theoretically conceptual model. Theoretical measurement is inextricably linked in that theories directly influence the choice of concepts, the definition of concepts, and the interpretation of statistical analyses using the measures (Boss, et al, 1993: 185). The models used as concept or framework can be selected from nursing theories or others with nursing perspective. Conducting concepts from other disciplines should be careful that it may have definitions and dimensions not consistent with their use in nursing (Jacobson, 1997:4).

2. Measurement frameworks

Norm-reference and criterion-reference are two frameworks that guide the design and interpret the measurement. The norm-referenced framework discriminates among individuals and spreads people across a range of scores, ideally, normally distributed (Jacobson, 1997:5). This framework is employed in measuring personality, affective, attitudinal, and cognitive construct in nursing. The criterion-referenced framework determines what a person knows or can do in relation to a specified domain or fixed performance standard. So that, criterion-referenced measures also produce classifications or judgments, such as satisfactory/unsatisfactory or met/not met. This framework is useful in clinical research that requires measuring a process or attaining outcome variables (Jacobson, 1997:5).

3. Instrument development procedure

There are eight steps of guideline in scale development which identified by DeVillis (2003). And eleven steps of instrument development defined by Burns & Grove (2001) are integrated and rearranged to use as strategy for developing the TFHR scale. The eight steps of guideline in scale development consist of 1) determine clearly what you want to measure, 2) generate an item pool, 3) determine the format for measurement, 4) have the initial item pool reviewed by experts, 5) consider inclusion of validation items, 6) administer items to a development sample, 7) evaluate the items, and 8) optimize scale length. Whereas, instrument development proposed by Burns & Grove (2001) consists of 1) design the scale, 3) seek item review, 4) conduct preliminary item tryouts, 5) perform field test, 6) conduct item analysis, 7) select items to retain, 8) conduct validity studies, 9) evaluate the reliability on the scales, 10) compile norms on the scale, and 11) publish the results of development the scale.

4. Psychometric property testing

Measurement is the process of translating reality into numbers (Knapp, 1999). The classical test theory developed by Michell (1986) is conduct for testing in this study. It is assumed that error affects is linearity. The heart of classical test is how random measurement error affects the internal consistency of linear combinations (Nunnally & Bernstein, 1994).

Classical measurement theory, an observed score on any measurement is seen as a combination of a true score and random and systematic error (Jacobson, 1997). True score is what we get if the instrument were perfect. Random error results from chance variations in the test may be attributed to; the unclear conditions, the condition of subjects, or the condition of test administration when data

is collected. Random error reduces the consistency of measurement and, directly makes it difficult to know what exactly is being measured because of uncertain raising and lowering. The larger portion of random error is the lower reliability coefficient of the instrument. Present systematic error results affecting all measurement have been made similarly. Systematic bias comprises validity, the extent to which and instrument measures what it is intended to measure. The psychometric property testing concerns with reliability and validity of a measure as follows:

4.1 Reliability

The first characteristic that any instrument must possess is reliability. Its measure based on the classical test theory of measurement denotes an indication of the extent of random error in the measurement method (Burns & Grove, 2001: 395). Reliability can be conceptualized. The most common estimate of reliability is a correlation coefficient that may range between –1.00 and +1.00, but in reliability assessment, they usually fall between 0.00-1.0. The closer the correlation coefficient to 1.00, the more reliable on the tool. Classical test is measurement to test reliability of the TFHR scale in term of internal consistency and stability.

4.1.1 Internal consistency or Homogeneity is concerned with the degree to which a set of items designed to measure the same concept is intercorrelated.

4.1.2 Stability is concerned with the extent to which the instrument provides the same results on repeated administrations (Crocker & Algina, 1986) or the consistency of repeated measure of the same attribute with the use of the same scale or instrument (Burn & Grove, 2001). Stability is usually refers to as test-retest reliability. Test-retest reliability is the correlation between scores from the same subject tested at two different times (Jacobson, 1997).

4.1.3 Equivalence is focused on the comparison of two versions of the same paper and pencil instrument or of two observers measuring the same event (Burn & Grove, 2001).

4.2 Validity

The core essence of validity is accuracy. The term validity means "an integrated evaluative judgment of the degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of inferences and actions based on test scores or other modes of measurement" (Nunnally and Berstein, 1994: 83). The term accuracy is the degree to which an instrument measures what it is supposed to measure (Polit & Beck, 2004). In other words, validity of an instrument is a determination of the extent to which the instrument actually reflects the abstract construct being exam (Burns & Grove, 2001: 399). Measurement validity is defined as the truthfulness of the measure in assessing the phenomena of interest in a given simple population (Talbot, 1995). There are four types of validity.

4.2.1 Face validity refers to "the extent to which and instrument 'look like' it measures what it is intended to measure" (Nunnally, 1978: 11). It is defined as validity conferred by the lay persons' acceptance that a procedure, statement, or instrument appears to be sound or relevant (Lynn, 1999) to measure the construct.

4.2.2 Content validity is the degree to which the items, questions or elements of and instrument are representative of the universe of content or the domain of content (Nunnally and Berstein, 1994). Content validity can determine by the application of two stage, development and judgment-quantification (Lynn, 1999). An early developmental stage composed of three steps; domain identification, items generation, and instrument formation. Two steps on judgment,

determining the number of experts and application of the index of content validity (CVI). The scopes of review critique by professional expertise are: 1) the desired domain of content presented in, 2) items appropriate indicators of the objective and definition of the study, 3) each item represented the content or behaviors in the domain of interest by using item relevance rating scale (Davis, 1992; Waltz, Strickland, and Lenz, 1991). One widely used procedure is to have at least three content experts rating the relevance of each item to the objectives on a 4-point scale (from 1= not relevant to 4 = very relevant). The CVI for the total instrument is the percentage of total items rated by the experts as being very relevant 3 or 4) based on the 4-point scale. The CVI is measured by inter-rater agreement using the intraclass correlation, which is the ratio of the proportion of agreement divided by the maximum number of the items agreeing. Coefficient's value of CVI ranges from 1.00 (highest) to 0.00 (lowest), and the Coefficient of .8 or better indicates good content validity (Davis, 1992; Polit and Back, 2004).

4.2.3 Construct validity is focusing on the theoretical meanings of measurements, and logical relationship of a measurement concept to other concepts by using the processes of scientific inquiry to link theory with the empirical world and to argue that the relationship found are not attributable to alternative constructs (Jacobson, 1997). Testing construct validity can be categorized into two groups: internal association and external association (Mishel, 1998). Exploring the internal association is to examine patterns of interrelationships between indicators designed to measure the concept. Testing the external association is to examine interrelationships between the indicators and other variables (Mishel, 1998). There are three ways to examine the construct validity.

4.2.3.1 Factor analysis, the statistically factor analysis can provide support for instrument validity. Many theories used have identifiable subconstructs. The instrument used to measure the theory is to reflect these subconstructs. When the theory is truly reflected, then the items related should be clustered when subjected to factor analysis.

4.2.3.2 Contrasted or known group validity

To identify groups of subjects is depended on the theory behind the construct; the researcher may identify groups of subjects. An instrument is administered into two groups of subjects that should be high and low. The score of each group could be statistically analyzed such as a t-test or analysis of variance (Talbot, 1995). If the instrument was a valid measure of the concept of interest, the differing significantly of the group scores indicates that the instrument appeared to have some validity with the samples as a measure of that concept (Jacobson, 1997; Talbot, 1995).

4.2.3.3 Multitrait-multimethod validity (MMTM), this approach represents a very complete way of assessing validity (Talbot, 1995). To assess MMTM validity, Talbot (1995) provided certain requirements must be met as followings:

1) The researcher must reflect two different concepts of interest that are not expected to closely correlate, but instead they will diverge from one another. The researcher assesses the divergent validity of the two concepts as part of the MMTM.

2) The researcher must have two or more different ways of measuring each concept. Two methods of measuring the same concept should correlate highly and will indicate convergent validity to the researcher.

3) The subjects must be willing to take four or more tests at one setting.

Scores available above are put into a correlation matrix. The systematically examines starting with reliability estimates for each instrument. Next, the convergent validity is examined. Finally, discriminant validity would also have to be done the same. The first step is to look at heterotrait-monomethod diagonals (two concepts, one method). This step should be some shared method variance evident in the correlation scores. The second step is to look at the heterotrait-heteromethod correlations (two concepts, two methods) that should be very low. The third step is to look at the different trait measure methods. The scores in this step should show similar pattern of the trait relationships remain constant. The results can be analyzed with ANOVA and confirmatory factor analysis.

4.2.4 Criterion-related validity refers to the relationship between test score and criterion measurement, a goal standard, made at the same time the test was given (Nunnally and Bernstein, 1994). It is assessed by comparing the scores on an instrument or scale to a know criterion (which could be another test), which has been previously validated. This validity involves determining the relationship between an instrument and an external criterion or indicator. It is most pertinent when an instrument will be used for decision making (Jacobson, 1997). Correlation coefficients are commonly used to compare the results obtained from a new instrument and the goal standard for criterion-related validity. Therefore, the criterion-related validity is determined by the strength of the relationship between test score and criterion performance (Nunnally and Berstein, 1994). There are two design for the criterion-related validity; predictive validity and concurrent validity.

4.2.4.1 Predictive validity refers to the adequacy of data from an early instrument that can be used to estimate criterion scores to be obtained in the future. Predictive validity is used to measure future performance; therefore, the criterion instrument must be administered some time after the predictor instrument (Talbot, 1995).

4.2.4.2 Concurrent validity refers to an instrument that distinguishes individual who differ in their present status on a goal standard test (Polit and Beck, 2004). Such validity requires that the criterion variable should be a higher-order conceptualization of the predictor variable, not simply another variable (Knapp, 1985). Concurrent validity is usually preferable for achievement tests and diagnostic clinical test.

Both reliability and validity measures are aiming at minimizing the portion of the error of score, and they are to maximize the portion of true score. The lower in reliability coefficient influences to the confidence that can be placed in subsequent judgment by that instrument. Reliability is largely depended on validity with its consistency before one could determine whether what it is (Jacobson, 1997; Fox, 1982 cited in Jacobson, 1997), and an instrument would be reliable without being valid, but an unreliable instrument could not possibly be valid.