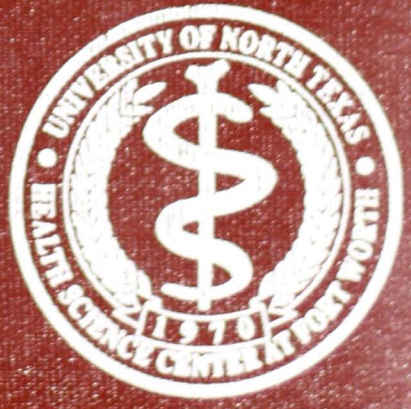
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The purpose of this research was to study the family health promotion practices of a sample of Mexican mothers living in the state of Sonora Mexico through a concurrent mixed method approach that included (1) a qualitative component with face to face and in-depth interviews, investigator observations, and analysis of content; (2) a quantitative component consisting of statistical analysis of data from selected sections of the National Survey for the Evaluation of health Services 2002-2003. For the qualitative component 15 mothers, with mean age of 40 years, mean years of education of 10 years, living with their families were selected to form a purposive sample, and assigned to one of three groups: married working mothers, non-married working mothers, or married non-working mothers. The qualitative component was naturalistic and descriptive, using semi-structured interviews with the mothers, and individual questionnaires to collect demographic and housing information. The quantitative component used the survey responses provided by the database of the National Survey for the Evaluation of Health Services 2002-2003, from 404 female adults aged 18 and older, living in the urban zone of Sonora.

The qualitative component showed that mothers conceptualize the health status of the family as a priority. The specific practices they use depend on the

set of external resources and internal strengths of the family in order to overcome the physical, environmental, relational, or economical barriers they found to promote family health. Working mothers showed more positive orientations for the promotion of health practices. The participants also reported being unsatisfied with the access and quality of the social health care system.

The data from the quantitative component showed that Mexican Sonoran women living in the urban area reported having good health and felt satisfied with their health status; their satisfaction with the social health care system was fair. The group of non-married working mothers was detected to be more at risk for cardiovascular diseases due to a greater proportion of smokers and drinking paired with low amount of exercise.

The results provided valuable information to formulate health promotion programs and future policies to be implemented with the target population.

A MIXED METHODS APPROACH TO THE DEFINITION OF FAMILY HEALTH PROMOTION PRACTICES FOR MEXICAN SONORAN MOTHERS

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TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF ILUSTRATIONS

CHAPTER I

INTRODUCTION

Rationale

Life styles are intimately and importantly correlated with chronic diseases as risk factors. For instance, inadequate eating and activity practices constitute cornerstones for risk of obesity, diabetes, cardiovascular disease, reproductive complications and some forms of cancer, among others (United States Department of Health and Human Services, 2005). Other diseases such as cirrhosis, some types of cancer, and pulmonary cancer also have unhealthy practices of alcohol intake and smoking cigarettes respectively as risk factors (National Center for Chronic Disease Prevention and Health Promotion, 2005a, 2005b).

The family is the primary source delineating the life styles of their members. The ideas about what is health (health perceptions), what practices are conducive to health , what are the supporting resources and strengths, and the barriers limiting positive practices, all emerge from the family, its cultural traditions and social circumstances. Particularly, in published studies, the mother has been identified as the primary household health keeper and primary source of the information that defines health practices, she is who prioritizes the family

health needs and the resources dedicated to health, and the person responsible for the intergenerational transmission of health beliefs and practices (Mendias, Clark, & Guevara, 2001; Denham 1999a, 1999b, 2002; Ford-Gilboe, 1997; Roden 2003, 2004). The cultural conceptualizations and beliefs regarding health and illness, also affects the utilization of health services for the members of Mexican families and their mothers. Mothers usually attend clinics for family planning or children's immunizations, postponing attendance for breast examinations and cervical screenings (Rappsilber, Castillo, & Gallegos, 1999). These trends derive from the mother's values about the preeminence of others' needs. Origins of values are embedded in cultural practices, but are also determined by the limits imposed by the resources to cover health needs. The identification of the origin and context of health practices and health services utilization constitute an important step towards delimiting how to support mothers in overcoming barriers to preserve their families' and their own health (Mendias, Clark, & Guevara, 2001).

When searching published research about health promotion practices, most qualitative studies have been oriented to identify and describe family health promotion practices taking into account the perspectives of the actors, mainly the mothers, and the cultural context and values surrounding such practices (Ford-Gilboe, 1997, 2000; Mendias, Clark, & Guevara, 2001; Mendelson, 2002, 2003a, 2003b; Roden, 2003; Denham, 1999a, 1999b). These qualitative approaches are providing important information changing the emphasis from the study of

unhealthy behaviors as risk factors to the study of health practices that promote the health of the individuals in the family context. Knowing more about the contexts where practices are exerted allows the identification of culturally-determined effective practices, the resources and strengths the family has to support them, the needs to be attended by the family, and the targets of culturally appropriate health promotion programs. (Ford-Gilboe, 1997; Mendias, Clark, & Guevara, 2001; Mendelson, 2002; Roden, 2003).

Qualitative approaches also have been implemented to complement the information provided by quantitative approaches (Ford-Gilboe, 1997, 2002; Roden, 2003, 2004). For instance, taking together qualitative data with the information provided by population health surveys, enriches the knowledge of the health status and quality of life of the individuals and their families. Eventually, new more sensitive indicators could be integrated with the quantitative measures used in population studies. In relation to population studies in 1986 the Mexican government began an ambitious project to expand the existing National Health Survey System in order to determine the health status of the Mexican population. Consequently, in 2000 the National Health Survey was implemented updating the information provided by previous surveys that included the epidemiological profile, the impact of national preventive campaigns, and health services utilization, adding other areas of interest such as the evaluation of impaired population and new public health programs (Sepulveda, 2003). In 2002-2003, the first National Survey for the Evaluation of Health Services was implemented. This

survey provides information about risk factors for chronic diseases, the perceived health status and quality of life of the adult Mexicans, among other important information. The main results have been published in the report Health: Mexico, 2002 (Ministry of Health, Sub-Ministry of Quality and Innovation, Department of Information and Evaluation of Health Services, 2003). The databases with the information provided by a national sample of 38,746 families representing all the states, and the rural and urban zones of Mexico are available on-line (Dirección General de Evaluación del Desempeño, 2005)

Incorporating more detailed information about health promotion practices, resources, and strengths supporting the practices, the barriers to perform such practices, and health seeking behaviors of Mexican families would provide a more comprehensive scope for understanding the epidemiological profile of the adult Mexican population and would facilitate the identification of future targets for public health interventions culturally oriented.

Purpose of Study

The purpose of this research was to study the family health promotion practices of a sample of Mexican mothers living in the state of Sonora, Mexico, through a concurrent mixed method approach (Creswell, 2002). The qualitative component was naturalistic and descriptive in nature and targeted the mother as the main informant guiding the identification of existing health perceptions, health

promotion family practices, resources, and strengths supporting the practices, as well as the barriers to such practices, and health seeking behaviors.

The quantitative component had two sources of information:

(1) Individual questionnaires exploring the demographic characteristics as well as the housing conditions surrounding the family lives of the mothers participating in the qualitative component to provide a more precise image of the material context where the health practices occur.

(2) The survey responses provided by the database of the National Survey for the Evaluation of Health Services 2002-2003, particularly the data from 404 female adults aged 18 and older, living in the urban zone of Sonora at the time of the survey, were analyzed to determine the perceived health status, quality of life, risk factors, health care needs, and satisfaction with health services, of the women in Sonora.

The information obtained from the mothers participating in the qualitative component was contrasted with the responses provided by the population survey to detect concurrences, discrepancies, or complementarities to obtain a comprehensive analysis of the health practices promoted by the mothers.

The study prioritized the qualitative component over the quantitative component mainly because this last component was complementing the qualitative information. With the purpose of avoiding bias when interviewing the participants in the qualitative component, the analysis of the quantitative data

was postponed after completion of interviews and the qualitative analysis. In that manner, both sources of data concurred until results were reported.

Research Questions

The specific research questions formulated for this study were:

1) What are the self-perceptions the mothers have about health?

2) What are the family practices for health promotion and the implementation strategies followed by mothers?

3) What are the orientations guiding health practices implemented by mothers: health promotion or disease prevention?

4) What are the barriers to health practices experienced by mothers?

5) What are the resources of the family supporting health practices?

6) What are the strengths of the family supporting health practices?

7) What are the health-seeking behaviors preferred by the mothers when they are sick?

8) What are the health-seeking behaviors preferred by the mothers when their children are sick?

9) What are the resources of the family when dealing with disease?

10) What are the strengths of the family when dealing with disease?

11) What are the characteristics of the utilization of health services, perceived health status, quality of life and risk factors affecting the women in Sonora, Mexico, obtained with the National Health Survey?

12) What are the discrepancies, concurrences or complementarities between the responses obtained in the sample of mothers participating in the interviews and the responses obtained trough the National Health Survey?

Using mixed methods in public health research is increasing mainly by the researchers working with vulnerable populations and relatively understudied issues and phenomena, requiring in-depth study to recognize the many undiscovered facets involved. The careful attention to quality of data, investigator bias, quality of the research process, and usefulness of the findings are the main ingredients to obtain the best of both qualitative and quantitative methods and address the study of health issues (Ford-Gilboe, Campbell, & Berman, 1995).

Using mixed methods approaches relies on triangulating sources of data to provide more complete understanding of the concepts and phenomena, to reveal a fresh perspective, and to add breadth and scope to knowledge of the phenomena (Shepard, Orsi, Mahon, & Carroll (2002). Mixed methods would provide a vehicle for greater insight into specific health issues of the families that could not be captured using a singular approach. Triangulation has been used most commonly to describe the combination of quantitative and qualitative methodologies in the research design "The purpose of triangulation is to provide more complete understanding of concepts and phenomena, as well as to confirm prior results and conclusions" (page 336, Shepard, Orsi, Mahon, & Carroll, 2002).

Delimitations

Several factors affected the internal validity of the research study. Selecting only mothers as informants put limits to getting important information from other family members that could provide different points of view. Nevertheless, the qualitative component of the study allowed in-depth analysis and more detailed descriptions of selected cases extracted from the target population. Therefore, relevant social and cultural factors underlying health promotion practices were identified using a culturally sensitive approach. In the long term, it is expected that culturally sensitive quantitative measures based on the findings can be developed. In that way, the determination of health practices and needs of larger portions of the target population would be feasible.

Well controlled standard procedures were followed for the National Survey for the Evaluation of Health Services 2002-2003 that guarantee the internal validity of the research and its results (Palma-Coca & Olaiz-Fernandez, 2005).

Limitations

The scope and range of generalization of findings were affected by several limitations:

(1) The local, exploratory, and descriptive character of the qualitative component.

(2) Selection bias was present because the purposeful or convenience nature of the sample; this feature limits the representativeness of the women and their families selected.

(3) Bias from the investigator could exist because she held a conceptual frame of reference when gathering, organizing, analyzing, and interpreting the information. Nevertheless, the detailed description of participants and the procedures followed in the qualitative component would facilitate comparisons with other samples with participants sharing the same characteristics (Miles & Huberman, 1994).

(4) Although descriptive in nature, analysis of data and results from the National Survey has external validity because a probabilistic, multistage, stratified sample was used, including participants from every state of the country with representativeness of urban and rural localities of Mexico. This feature strengthened the discussion of concurrences, discrepancies, and complementarities, when qualitative data and quantitative survey data were contrasted.

Assumptions

1) For purposes of this study it was assumed that mothers are reliable and dependable sources of information, therefore the information obtained is as reliable and accurate as possible.

2) It was also assumed that the majority of participants would choose their homes as the context to conduct the interview, facilitating the observation of living conditions; this assumption was not satisfied.

Definition of Terms

For the purpose of this study, the following are terms and definitions adopted and often referred to in the study:

Barriers to family health promotion practices - The set of events, internal and external, that affect the family and its members preventing them of implementing health promotion practices (Mendias, Clark, & Guevara, 2001).

Demographic characteristics - General characteristics of the family members of age, education, contributors to the family income, and access to health care.

Family practices for health promotion - Set of behaviors, techniques, or activities used to sustain self-care for health or wellness in the context of family routines. "...Through health promotion, the family sustains or enhances the social, emotional, and physical well-being of the family systems and its members...Engaging in health promotion provides an opportunity for families to alter lifestyle choices and to develop effective ways of dealing with health situations so that family goals and aspirations can be achieved" (page 206, Ford-Gilboe, 1997).

Family strengths - Family relational or internal characteristics supporting the efforts to deal with disease or other adverse situations, and health practices (Ford-Gilboe, 2000); including perception of control, coping strategies, social support, and parenting alliance, among others.

Family resources - External resources of the family members supporting the efforts to deal with disease and adverse situations, and health practices (Ford-Gilboe, 2000); including income, a stable employment, social networks, socio-economic status, education, and access to health services, among others.

Health promotion - A process of enabling people to improve their well being and to take control over their health. It includes actions for building healthy public policy, creating supportive environments, strengthening community actions, developing personal skills, and reorienting health services (World Health Organization, the Ottawa Charter for Health Promotion, 1986).

Health seeking behaviors - Set of behaviors exerted by mothers and the family members to recover from illness. It includes home remedies, over the counter medications, visiting the doctor, taking medications and following instructions from the physician (Mendelson, 2003a).

Health Status - Described by means of clinical indicators, and its study is related with risk factors leading to disease morbidity and mortality (Mendelson, 2002).

Housing conditions - Material living conditions in household, including ownership, number of rooms and separate spaces for cooking and sleeping,

utilities available inside, or outside the house, appliances, and housing materials INEGI, 2004).

Orientations toward practices of health promotion - Practices of health promotion have two possible orientations: (1) a negative orientation based on the idea of prevention as avoiding disease or keeping away the individual of getting ill; (2) a positive orientation for health promotion through the implementation of educational approaches for skills acquisition relating to making decisions and taking responsibility of health matters (Roden 2003).

Parenting alliance - The perception of the ability of a parent to recognize, to respect, and to value the parenting roles and tasks of the partner (Cohen & Weissman, 1984). It is also conceived as the degree of commitment and cooperation between spouses for raising their children. The commitment and cooperation is traduced in effective parental roles for participating in child care activities, respecting the opinions of the other parent about children care, and communicating about children's needs (Abidin, 1992).

Perception of control - Individual's perception of who is in charge of her life; it could be internal, external, or both (Mendias, Clark, & Guevara, 2001).

Quality of Life - The combination of physical, psychological, and social functions that form the capacity to develop the every day life activities and attain the individual goals. Physical functions comprise physical mobility, performing usual activities, and level of pain or physical discomfort; psychological functions of cognition and affect manifested by the presence or absence of anxiety and

depression; social functions include individual behavior and interaction with family, non family, and involvement in risky/non-risky interactions. Measures of quality of life usually include levels of energy, pain, emotion, sleep, social isolation, and physical mobility experienced by the individual (Long, 1999).

Quality of life is a human notion also related to the degree of satisfaction experienced by the individual with the physical status, emotional status, family interactions, couple relationships, social interactions, and meaning attributed to life. The frame of reference when judging the quality of life is the set of personal experiences and socio-cultural values and expectancies constituting the individual background (Schwartzmann, 2003).

Self-perceptions of health - The client's descriptions of what health is, including the physical, emotional, social and spiritual dimensions (Mendelson, 2002).

Social networks - Set of organizational and community resources with the potential of providing support, especially affective, instrumental and advice. Potentially, social networks and social support may affect preventive health behavior, illness behavior, and sick-role behavior and the incidence and recovery from disease (Heaney & Israel, 2002).

Social support - Defined as interpersonal transactions providing mutual assistance and protection, especially on an individual basis. Such assistance may be tangible in the form of financial aid, or intangible as emotional help. The protection component can assume the function of shielding people from the

adverse effects of stress present in the many life span transitions and problems. (Hinson, Bowsher, Maloney, & Lillis, 1997). Social support can "...influence health directly by providing access to information and encouraging motivation, and indirectly, by encouraging involvement with treatments, maintaining health promoting behaviors, and providing instrumental support (Sgarbossa & Ford-Gilboe, 2004).

The model of the dimensions of family health explored in this dissertation study appears in Figure 1. The self-perceptions or descriptions of health and well being, altogether with barriers to current and potential health practices, contribute to define the orientations toward the practices for promoting and preserving the family health, and consequently the practices themselves. Other sources of influence on the family practices are the strengths (internal to family) and resources (external to family). Barriers to practices when dealing with disease, strengths (internal to family), and resources (external to family) have an impact on the health seeking behaviors of the family. Both current family practices for health promotion and health seeking behaviors directly impact the health status and quality of life of the family members. The model integrates previous findings from the reviewed studies and was developed for this study and guided the aspects under scrutiny. Although it was not the intention of this research to test the model it is included to assure all relevant aspects pointed in previous studies were taken into account for the present study.

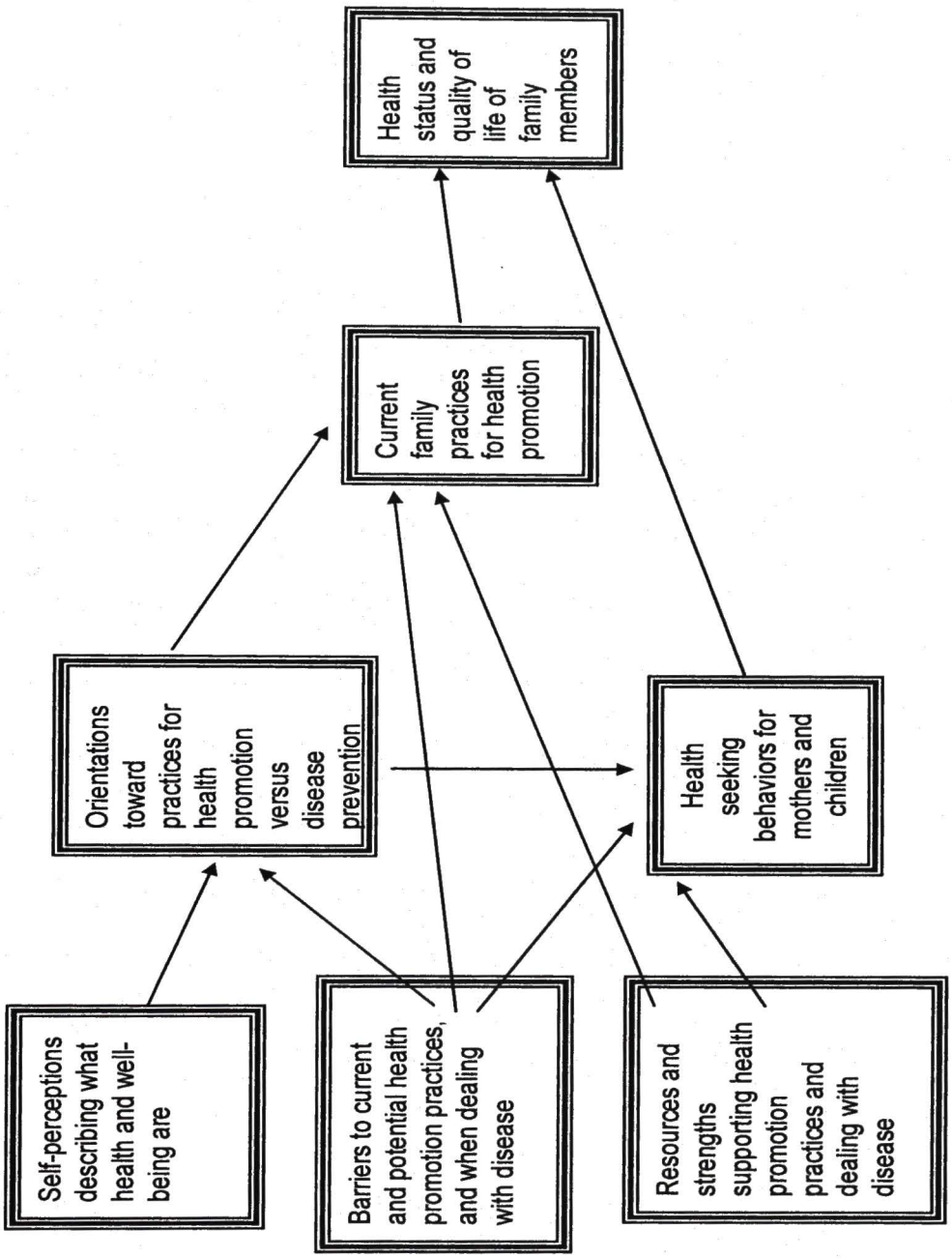

Figure 1.
Preliminary Relations between the Variables Explored through the Semi-structured Interview

Importance of the Study

It is important to identify relevant culturally defined dimensions of health, and current family health promotion practices, because these will be the basis for acquiring healthy behaviors that will be put into practice for the next generation of family members (Roden, 2003). Especially, the identification of positive practices, family strengths and resources supporting the practices, and the perceived needs of the family, opens a constructive approach in health promotion programs directing efforts to reinforce positive practices, the family strengths and resources. The identification of needs and barriers also offers the opportunity to develop culturally appropriate health promotion programs. Finally, contrasting qualitative data with the quantitative survey data lead to the identification of concurrences, discrepancies and complements. The study has potential to identify relevant dimensions to be included in future research.

CHAPTER II

LITERATURE REVIEW

As previously mentioned, life styles are correlated with chronic diseases as risk factors, and the family is the primary source delineating the life styles of their members. Chronic diseases are the first cause of mortality among the adult population in Mexico. Recent data from 2003 provided by the National Health Information System of Mexico, show diabetes mellitus and ischemic heart disease as representing the leading causes of mortality in the general population. Among male adults, ischemic heart disease, diabetes mellitus, and cirrhosis and other liver chronic diseases head the list for causes of mortality. Among female adults, a similar picture shows that diabetes mellitus and ischemic heart disease represent the main causes of mortality (See table 1).

Table 1

National Mortality Rate Overall and by Gender in Mexico, 2003

Causes of mortality	National Overall	
	Rate	Percentage
Diabetes	56.73	12.6
Ischemic heart disease	48.70	10.8

	Male national mortality		Female national mortality	
	Rate	Percentage	Rate	Percentage
Diabetes mellitus	51.6	10.3	61.8	15.4
Ischemic heart disease	54.0	10.7	43.5	10.9
Cirrhosis and chronic liver diseases	39.5	7.9	12.1	3.0

From: National Health Information System of Mexico

Among Mexican children, infant mortality is still dominated by infectious diseases, i.e., in infants up to one year of age (affections presented during the perinatal/delivery period: mortality rate 847.2, 51.2%); in toddlers 1 to 4 years of age (intestinal infectious diseases: mortality rate 7.88, 9.7%; acute respiratory infectious diseases: mortality rate 7.61, 9.4%), except for school age children 5 to 14 years of age dominated by vehicle traffic accidents (mortality rate 4.49, 14.6%).

A similar epidemiological profile is observed for the adult population living in the state of Sonora, located in the North West region of Mexico, sharing borders with the American state of Arizona. As table 2 shows, for the male

population, the dominant cause of mortality is ischemic heart disease, followed by diabetes, brain vascular disease, and cirrhosis and other chronic liver diseases. For the female adult population of Sonora, the panorama is dominated by diabetes mellitus, closely followed by ischemic hearth disease; brain vascular disease occupies third place, and breast cancer the fourth.

Table 2

Mortality Rate (standardized by age) by Gender for State of Sonora Mexico, 2003

	Male mortality		Female mortality	
	Cases	Rate	Cases	Rate
Diabetes mellitus	588	79.7	754	95.4
Ischemic heart disease	1148	158.4	746	94.2
Brain-vascular disease	329	45.6	305	37.9
Cirrhosis and chronic liver diseases	316	37.5	-	-
Breast cancer	-	-	110	12.3

From: National Health Information System of Mexico

As Frenk and collaborators (Frenk, Frejka, Bobadilla, Stern, Lozano, Sepúlveda, & Jose, 1991; Frenk, Lozano, & Bobadilla, 1994) already mentioned, Latin America's, including Mexico's, epidemiological profile is changing from an infectious disease to a chronic disease profile, perfectly compatible with the transition from under development to a developed country profile. In these circumstances, significant changes in life styles are evident in major population

segments, but more markedly in those individuals living in the urban zone with major availability of processed foods and fast foods. Ramirez et al. (2003) documented the effects of the so-called alimentary transition on the amount of nutrients obtained from the typical Mexican diet of the rural, semi-rural, and urban zone. Deficiencies in essential nutrients such as iron, zinc, vitamins A and C characterize the current diet; adding greater quantities of fat and animal protein exceeding 2.5 times the recommendations.

Other important changes in life style affecting the health of the populations are the reduction in physical activity in the type of regular exercise, time dedicated to leisure time activities in open spaces, walking, and increasing the time spent in front of the television (Pan American Health Organization, 2003; National Center for Chronic Disease Prevention and Health Promotion, 2005).

Family Health Promotion Practices

International agreement about the role of prevention and health promotion as effective means to attain a positive health status and well being of the population was acknowledged in 1978 by the World Health Organization with the Alma Ata declaration of Health for All. Major efforts by public health policy and public health research support this orientation. The prevalent trend of epidemiological studies has been directed towards the determination of risk factors and potential to predict illness and disease. The reverse orientation going from the identification of existing aspects as precursors of good health is founded

in health promotion qualitative studies regarding the determinants of family health.

The study of family health has been approached from different angles. Definition of what is family health lacks consensus among theorists and researchers, and is plagued by ambiguity (Denham, 1999). At the same time, the targets have varied and researchers have imposed instrumentation, without taking into account what families have to say. Denham (1999) summarizes previous efforts and findings as follows: "...(a) the concept of family health is poorly understood, (b) the construct lacks definitions that include the potential confounding variable interactions, and (c) the study of family health contains methodological concerns similar to what has been described in relation to family research" (page 136). What family health research should be is also summarized by Denham (1999) as research "...based in clear conceptualizations,... developing clear operational definition of the variables of interest, ...using reliable and valid instruments, ...clearly identifying potential confounding factors,... and developing family health models (page 137).

The study of family health promoting practices has been conducted within the social and cultural context that contributes to their definition. For instance, Denham (1999a, 1999b, 2002) has been studied the family health practices of Appalachian families; Mendelson (2002, 2003a, 2003b) studied the Mexican American family and the origins and orientations of their health practices; Roden (2003, 2004b) directed her interest to young Australian families and their health

practices with preschool children; Ford-Gilboe (1997, 2000, 2002) studied Canadian women. The main purpose of the research in this area is deriving culturally competent interventions emphasizing health promotion (Mendias, Clark, & Guevara, 2001). This area of research enhances the role of family practices in the determination of the health status and well being of the members, and is considered the primary health-promoting environment (Christensen, 2004). Fundamentally, the mother has been identified as the main decision maker in health matters, as such is the main informant in the studies reviewed.

The research by Denham used an ethnographic approach to identify how Appalachian families defined family health, and how it was practiced within the family household. Families defined health in terms of a set of complex interactions between family members influenced by the external social context. The main findings indicated that "...(a) early parental socialization contributed to important health resources, (b) mothers were primarily responsible for family health, (c) members participated in family health routines, (d) family health was a lived experience affected by beliefs and practices, (e) health knowledge was not consistently incorporated into family health routines, and (f) community and cultural context affected family health" (Denham, 1999a, pp. 143). A comprehensive description of family practices, routines, and mother's roles appears in her publications (Denham 1999b, 2002).

Mendelson (2002) mentioned that health status and health perceptions or self-definition of health, are two related concepts to be studied when trying to

define the construct of health. "Mexican American women contextualize health into many aspects of their lives, viewing their responsibility in health work as facilitating physical health and providing an environment in which their families and the individual members have opportunities to develop mentally and socially" (Mendelson, pp. 211). The study of health producing behaviors in the family context led to 3 questions in Mendelson's research: a) what are the health perceptions, b) what are the health-producing and health-seeking behaviors, and c) what are the roles played in the household production of health by contemporary Mexican American women?

Using an ethnographic approach while conducting interviews with mothers, participant observation, and field notes, she found that their health perceptions rely on personal experiences and expectations as the frame of reference when the individual evaluates her personal health. The women participating in the study defined health as a combination of physical health, sound mental health, and a socially and spiritually satisfying life; any disruption in any domain produced a disruption in the others (Mendelson 2002). She identified as the main health-producing activities: providing emotionally supportive environment for children; maintaining health through diet and nutrition, exercise and recreation, and preventive health care. The health seeking behaviors she identified were: treating illness with traditional and modern practices; listening to others and following your own advice (Mendelson, 2003). The roles she identified were: being a parent, who includes being a disciplinarian, a teacher, and a

warrior; caring for the family, which includes being a healer, care giver, household manager, money manager, and breadwinner (Mendelson, 2003b).

Using a qualitative descriptive approach, Roden (2003) explored the concept of health followed by an examination of the health practices the parents undertook with their preschool children. An important distinction in the practices emerged according with a positive versus a negative orientation towards health prevention. The positive orientation was based on health prevention as health promotion through the implementation of more complex and diverse educational approaches, such as teaching children through example, life experiences, making informed decisions, and providing opportunities to increase confidence. The negative orientation was based on the idea of prevention as avoiding disease or keeping the children from getting ill. The practices include routine, discipline and rewarding child health practices; keeping vigilant to detect possible sources of disease, and noting early symptoms. Emotional expressions were also considered as a part of health behaviors. Health prevention and health promotion practices were embedded in the respondents every day efforts to educate their children, supporting a holistic vision of health. Based on the findings, the author formulated a model combining the Health Belief Model and the Theory of Planned Behavior tested with quantitative measures developed for that purpose (Roden 2004a).

The approach proposed by Ford-Gilboe (1997, 2000, 2002) when studying family strengths, motivations, and resources involved in the health promotion

behavior centered the attention in the positive aspects of the family characteristics. Each family system develops its own pattern of problem solving and decision-making to confront the various issues characterizing the promotion of health and keeping their members safe. Recognizing the process of constructing the health and wellness of the family, the strengths (family cohesion, family pride, mother's non-traditional gender roles), their internal sources of motivation (internal health locus of control, and general efficacy), and the resources available (network support, community support, and family income) to overcome adversity, allows also a positive approach when designing health promotion programs. Identification of culturally-defined strengths, motivations and resources can benefit other families as well.

In summary, all the models propose a conceptual frame of reference to ascertain the basic benefits of discovering family health dimensions, for the adaptation of culturally sensitive interventions that guide professional efforts towards health promotion. The heuristic value of the models with different populations pertaining to other cultural groups has to be tested. This goal is relevant to the target population of Mexican Sonoran mothers and their family's health issues.

Health Related Behavior Theoretical Models

Previous models for individual health related behavior have been developed to explain various behaviors such as why people are reluctant to

participate in programs to prevent or detect disease, preventive practices, illness behaviors, and sick role behaviors (Coreil, Bryant, & Herderson, 2001). For instance, the Health Belief Model was developed to explain participation in programs promoting screening behaviors; the Theory of Reasoned Action and its derivation the Theory of Planned Behavior both were formulated to delineate precursors of action in order to predict future behavior, basically preventive behavior, and formulate intervention programs with higher possibility to attain their goals; the Social Cognitive Theory intent to recognize cognitive processes affecting future behavior, also with the intention to provide the basis for future intervention strategies (Glanz, Lewis, & Rimer, 2003).

Continuous research about the application of those models has been summarized and efficiency tested through meta-analysis. The Theory of Planned behavior has been receiving particular attention with at least three meta-analytic studies published. Godin & Kok (1996) analyzed studies published from 1985 to 1995 and found that the model appropriately explain intentions, attitudes toward action and perceived behavioral control across different health related behaviors, but vary in its efficiency depending on particular categories. Cooke and Sheeran (2004) explored properties of a cognitive component assumed to have a moderating role between the various variables of the model and being responsible of certain amount of unexplained variation; using meta-analysis with 44 published and unpublished studies, the authors found that including cognitive mediational variables to the model its predictive power was improved. Armitage

and Conner (2001) also conducted a meta-analytic analysis of the Theory of Planned Action using 185 independent studies and founded that variations in the predictive power of the components of the theory could be attributed to poor measures of some components not reflecting the influence of contextual circumstances among other issues.

All this body of research dedicated to explore the predictive power of models has shown their limited value and the need to integrate variables coming from different models in order to enhance the predictive power. The basis for such adaptation is that different problems and different behaviors involved along with population peculiarities requires of rearrangements taking into account the influence of socio-cultural variables. Such influence is susceptible of being capture through using qualitative approaches and later deriving quantitative approaches for generalization of the model for particular categories of health related behavior and particular populations. However, health related behavior theories focus exclusively on individual behavior imposing limitations to the target of the present research study, that is, health promotion practices in the family context where interaction variables are permeating the way such practices are implemented.

To sum up, the epidemiological profile is changing and moving towards chronic diseases basically resulting from inadequate practices. The specifics of how the family approach to health practices is permeated by socio-cultural, economic and politic issues. A clear definition of how families are conceiving their

health status, quality of life, definition of what health is and corresponding practices, what are the barriers, strengths and resources available to support health practices has to be approached with a qualitative perspective to let the participants talk about their own experiences. Previous bodies of health related theory focused on individual behavior and its prediction. New theories integrate different facets from different models because the influence of the socio-cultural context; therefore is strongly needed to approach the subject in a new way to recover such socio-cultural context in order to enrich our understanding of health related behaviors in the family context.

CHAPTER III

METHODOLOGY

The purpose of this research was to study the family health promotion practices of a sample of Mexican mothers living in the state of Sonora Mexico, through a concurrent mixed-method approach which included a qualitative component with face to face and in-depth interviews, investigator observations, and analysis of content; the quantitative component consisted of statistical analysis of data from selected sections of the National Survey for the Evaluation of health Services 2002-2003. In order to properly describe this approach, characteristics of population, sample, data collection procedures, instrumentation, and data analysis for the qualitative component and the quantitative component are presented in detail.

Population and Sample

The target population consisted of Mexican Sonoran mothers living in the city of Hermosillo at the time of the study, and considered residents under the criteria of being settled in the area having a home, and developing social and economic activities for more than 5 years in the same geographical area. The National Population Council of Mexico defines as resident a person who lived for more of 5 years in the current city or town.

For the qualitative component of the study, a purposive sample was selected through direct selection by the researcher, which included referrals to the researcher from individuals familiar with the aims of the research, and referrals from women already enrolled in the study (snowball sample). The recruitment began with the researcher contacting 4 women she already knew, 4 other were referred to the researcher by a colleague, and the rest of participants were referred by participants enrolled in the study. A total of 15 participants constitute the sample. The strategy to stop recruitment followed the criterion of saturation, which take place when the participants are providing similar information as the previous participants, and therefore not adding new knowledge to the study (Schutt, 2004).

Because families may change their ways of coping with life circumstances, the demographic characteristics of the mothers selected varied in order to capture a certain level of diversity, but expecting also certain level of consensus due to the influence of the general social and economic context where the families' lives are occurring. The inclusion criteria were: (1) adult female (18 years and older); (2) marital status with two categories grouping those women living without a couple (single, divorced or widowed) and for this study identified as non-married, and living with a couple (married or by free will) identified as married; (3) family status with two categories: nuclear families integrated by parents and their children (with or without both parents living in the same house), and extended families integrated by parents (with or without both parents

living in the same house), their children, and other relatives (i.e., grandparents, grandchildren); (4) socioeconomic status of working class from manual to clerical positions; (5) without restrictions for presenting health problems or chronic diseases; (6) level of education of reading and writing skills and more; and (7) occupation status of currently employed or unemployed. After 9 interviews, and based on the demographic characteristics of the participants it was decided they were grouped into three categories: married non-working mothers; married working mothers; and non-married working mothers. Consequently the rest of participants were selected accordingly until the criterion of saturation was satisfied. Each category has 5 participants.

For the quantitative component of the study the sampling procedure used by the National Survey for the Evaluation of Health Services 2002-2003 was probabilistic, multistage, stratified, and clustered representing the rural and urban population of Mexico. Number of cases was proportional to population size in the rural and urban strata (Palma-Coca & Olaiz-Fernandez, 2005). For Sonora, the sample selected for this study consisted of a total of 404 cases of women, 18 years of age and older living in urban zone of Sonora at the time of the survey (2002-2003).

Protection of Human Participants

According to the guidelines established by the Institutional Research Board (IRB) of UNT Health Science Center, for protection of privacy,

confidentiality, and individual security of human subjects, all relevant precautions during fieldwork and latter data analysis and writing reports were taken. Authorization of IRB was obtained previous beginning recruitment and interviews. Participants were also provided with contact information of the principal investigator and IRB chair in order to respond any question related to the research.

During the first contact, each participant was asked for voluntary participation and confidentiality was assured. Each participant received an explanation about informed consent, were given the opportunity to ask questions and then asked to complete the informed consent document if they agreed to participate. This is the only document containing the name of the participant and as part of the IRB protocol; they were properly stored in a locked cabinet with no access to any other person than the researcher. Personal identifiers were not used in any of the documents utilized in the study, including demographic and living condition questionnaires, and transcripts. Since interviews were audio taped, all audio files were deleted from recorder and computer files; transcriptions were done only by the researcher. All first names were altered prior to the completion of analysis to avoid participants being identified by any other readers.

Instrumentation

The qualitative component included in-depth semi-structured interviews, and field observations of household conditions. If the participant chose to be interviewed at home, the questionnaire to assess housing conditions was used as the observational guide. If the participant chose to be interviewed some where other than home, housing conditions were assessed by asking the participants directly. The interview guide was developed based on the areas of content defined for the study which focused on exploring (1) self- perceptions describing what health is; (2) orientations toward practices for health promotion versus disease prevention; (3) barriers to current and potential health promotion practices, and when dealing with disease; (4) resources and strengths supporting health promotion practices and when dealing with disease; (5) Current family practices for health promotion and health seeking behaviors; (6) satisfaction with health status and quality of life of family members. The interview guide, Spanish and English versions are presented in appendix A.

The demographic and housing condition questionnaires - although quantitative, complement the information to properly describe the participants in this component. The questionnaires were re-designed by the researcher based on previous experience in research with Sonoran population. The socio-economic questionnaire collects data on family composition, educational level, income sources, and access to health services. English and Spanish versions of the instrument are presented in appendix B. The housing conditions

questionnaire provides information about the family living conditions and includes information about property status of household, number of rooms, utilities inside the house, building materials, and appliances. English and Spanish versions of the instrument are presented in appendix C. All instruments were piloted previous to the field study. No changes to the questionnaires were necessary.

The quantitative section of the study analyzed the data provided by the First National Survey for the Evaluation of Health Services, which was formulated to document the overall perception Mexicans have about health status, the health care delivery system, and financial protection reached in health matters. The information provided was expected to support making decisions about improving the quality of health services. The original survey was provided by the World Health Organization to research team working in Mexico. It was translated and adjusted by experts from the National Institute of Public Health and the Department of Overall Performance Assessment, National Bureau of Health resulting in two questionnaires, one documenting demographic characteristics and access to health services of the family members, and the individual questionnaire directed to the selected respondent – 18 years of age and older. This latter questionnaire documented the demographic characteristics, description of health status, evaluation of health status, risk factors, health services coverage, capacity of the health care system, and knowledge about the goals of the health care system. For the pilot study, a total of 253 interviews were conducted in order to test the instruments and field procedures, resulting in some

adjustments to the instruments and field procedures (Palma-Coca, & Olaiz-Fernandez, 2005).

The data elements selected from the individual questionnaire and used in this study were: (1) section 1000, which included demographic characteristics such as age, marital status, years of education, occupational status, and current occupation; (2) section 2000, consisting of a description of general health status including current health status, level of difficulty to perform normal activities such as mobility, personal care, pain and discomfort, cognition, social activities, vision, sleep and vital energy, and emotional state; (3) section 4000,which included risk factors of smoking cigarettes, drinking alcohol, physical activity, and environmental risks; (4) section 7000, consisting of the evaluation of the health system including health care needs, and satisfaction with the health care system.

Qualitative Data Collection Procedures

For the qualitative component three sessions were conducted. During the first contact, each participant was asked for voluntary participation in the study, and confidentiality was assured; next the researcher described the purpose of the interview, areas of content, explained the content of the questionnaires for socioeconomic and housing conditions, utilization of data, explaining potential risks and benefits, and participant's rights. Each participant was asked to choose freely the setting for the interview, which ranged from being at the participant's home, the researcher's office or a quiet location or space available at the

participant's job site. All participants were informed and asked for permission to record the audio of the interview. Finally, the participants completed the informed consent form. The second session focused on interviewing the participant and completing questionnaires. If observations to assess housing conditions were not possible, the items in question were asked directly from the participants. The third contact consisted of verifying the information obtained during the interview. A copy of the transcript was provided and the participant was asked to add any information she thought was relevant to the topics and to indicate if there were any inconsistencies or inaccuracies. Most of the participants kept the transcript and researcher contact information in case they had any questions.

The researcher kept a field work diary with annotations about the interview, housing conditions, family interactions, neighborhood characteristics, or any other relevant information supporting transcripts and analysis of content.

Quantitative Data Collection Procedures

The detailed description of data collection procedures implemented for the National Survey for the Evaluation of Health Services appears elsewhere (Palma-Coca & Olaiz-Fernandez, 2005). Public access details to the database of the National Survey for the Evaluation of Health Services, and the questionnaires can be found on line (Dirección General de Evaluación del Desempeño, 2005). The Mexican government promotes all public access to the information, therefore no special permission or request was required.

Qualitative and Quantitative Data Analysis

For the qualitative component, interviews were transcribed and the analysis of content was performed using the software Nvivo (version 2002). The transcriptions were provided to the participants to check accuracy of transcriptions and clarification if needed. In order to facilitate the analysis, cases within each category of participants were analyzed beginning with the group of (1) married working mothers, followed by the group of (2) non-married working mothers, and finally the group of (3) married non-working mothers. Following the guidelines for qualitative data analysis (Huberman & Miles, 2000; Miles & Huberman, 1994), for the first group the analysis began with the identification of themes and categories (identifying themes and patterns according with Miles & Huberman, 1994) within cases based on the set of concepts targeting the interview; this was followed by grouping themes and categories shared between cases (constructing grouped patterns according with Miles & Huberman, 1994) but preserving specific categories emerging from every case. The preliminary set of themes and categories derived from this first approach to the data was discussed with an expert in the field, who was uninformed about the objectives of the study. Based on the discussion, a second analysis was carried out, also followed by a second discussion with the expert about the final set of themes and categories. Based on that discussion, the researcher defined the set of codes and operational definitions to be used in the analysis with the software NVivo (version 2002) for qualitative analysis. Nevertheless, as new particular categories

emerged with the analysis of cases, they were incorporated. The final set consist of six free nodes corresponding to emerging categories and 42 categories and subcategories corresponding to the set of themes and categories derived and checked with the expert. The complete set including operational definitions appears on Appendix D. The final product was the description of the regularities identified between cases grouped and the description of the unique aspects of individual cases relevant to the aims of the study.

Based on the pre-existing categories of the first group, the second group was analyzed and added emerging categories; the same procedure was utilized for the third group. For the quantitative component, a statistical descriptive analysis of the selected data from the National Survey for the Evaluation of Health Services was performed. Further analysis consisting of contrasting and complementing information from both, qualitative and quantitative data components was conducted.

In summary, a mixed-methods approach to the study of health promotion practices with a qualitative component and a quantitative component was implemented. The qualitative component required recruiting 15 mothers distributed into three groups with five members each: married working mothers, non-married working mothers, and married non-working mothers constituting a purposive sample. The quantitative component uses data from the National Survey for the Evaluation of Health Services 2002-2003, which included 404 cases of adult women living in the urban zone of Sonora at the time of survey.

General sampling was probabilistic, multistage, stratified, and clustered representing the rural and urban population of Mexico. The instruments utilized in the study consisted of an interview guide, sociodemographics and housing conditions (qualitative component); and a selection of data elements from the individual questionnaire used in the national survey (quantitative component). Both sources of data were analyzed by contrasting and complementing the information from both components with the purpose of reflecting current health promotion practices and health seeking behaviors of Mexican Sonoran mothers.

CHAPTER IV

RESULTS

Demographics of Participants in the Qualitative Component

All study participants are natives of the state of Sonora, and 13 out of 15 participants were born in Hermosillo and living in the city since then. One participant was born in the rural area of Sonora and moved to Hermosillo at the age of 10 years old. The remaining participant was born in a rural area and moved to Hermosillo few months after birth.

Table 3 shows demographic data by group of marital status and for total of participants, showing similar characteristics of age (mean 40 years), time as married or non-married status (mean 16 years), years of education (mean 10 years), number of family members contributing to family expenses (mean 2 members). For number of family members, this figure represents direct descendants and other relatives. Married participants showed to have nuclear families with parents and their children, and non-married participants to have extended families with children, grandparents or sisters living together. Also found, was children 18 years of age and older to still be living with their parents, either because they are still in school or others working and contributing to family expenses.

Table 3

Demographic Data of Participants in the Qualitative Component by Group of Marital Status and for Total of Participants

Marital Status (Sample size)	Mean Age	Mean of time marital status	Mean years of education	Mean no. family members	Mean no. members contributing to expenses
Married (10)	38	16.7	10.7	5	2
Non-married (5)	42.2	16.8	9	5	2
Total (15)	39.4	16.7	10.2	5	2

For housing conditions, 93% of participants own their homes, and 7% live in houses owned by relatives but not necessarily live with relatives. Housing conditions of participants were very similar with services inside the house, well built houses (with long lasting materials such as brick, block and cement), with essential appliances (gas stove, radio, television, telephone, video recorder, refrigerator, blender and washer), except for the 5 participants living in a neighborhood settled as an squatter community with some services outside the house (kitchen or bathroom, and drainage), and rustic floors (clay or stone). Number of rooms varied from 2 to 5.

Working mothers living with or without a partner all worked 12 months last year; husbands also worked the same period of time, except one who worked 5 months. Occupations reported by working mothers were mainly manual (6

janitors) and clerical (2 secretaries, 1 assistant), with one participant working as salesperson. All participants, married and non-married, and their children were found to have health insurance coverage by the social security system (Mexican Institute of Social Security IMSS, Institute of Security and Social Services for State Employees of Sonora ISSSTESON), except for 2 participants living alone; in which one had no health insurance and her children were covered by private health care providers; and the other with health insurance covered by the social security system and her grandchildren covered by private health care providers. Five participants reported having a second source of health care mainly with private health care providers. For husbands and other relatives, 40% of them were found to use social security services exclusively; 7% to use only private services; and 6% to use both private services and social security services.

Results for the Qualitative Data Analysis

Presentation of results follows the structure of general topics that the researcher focused on during the interview and responses obtained. Responses elicited for each topic are described and compared among the following subgroups in the sample of 15 mothers: married working mothers (5 participants); non-married working mothers (5 participants); married non-working mothers (5 participants). Similar responses compose themes. Focused areas included: exploring the self perceptions describing health; orientations toward practices for health promotion versus disease prevention; barriers to current and

potential health promotion practices, and when dealing with disease; resources and strengths supporting health promotion practices and when dealing with disease; current family practices for health promotion and health seeking behaviors; satisfaction with health status and quality of life of family members; needs to improve the health status and expectations for policy changes.

Self-perceptions About Health

Under this topic, the participants described their own perception of health. Concurring with Mendelson (2002), the participants' descriptions reflected the physical, emotional, social and spiritual dimensions involved. The physical dimension was present on some descriptions defining health using examples indicating the absence of disease. For instance being healthy as opposed to being sick or "I'm healthy because I'm not sick"; feeling well as opposed to not feeling well as indicator of being healthy; suffering common diseases as flu or getting cold as opposed to suffering chronic diseases. Those participants suffering chronic allergies did not consider themselves as sick or unhealthy because the problem did not interfere with their regular activities or was not debilitating. Opposed to that, participants experiencing excruciating conditions and pain described themselves as sick persons. A common reference was being healthy when comparing their situation with other same-age women complaining of debilitating symptoms or diseases.

Some participants' descriptions of general well being comprised what they were doing to be healthy, for instance having healthy habits, attending the doctor

for preventive check ups, being energetic when performing domestic chores or work duties. A strong emphasis on activity was a commonality among participants in the three groups. For married working mothers, described having a job as an opportunity of being productive without compromising their obligations with family, producing self worth and in consequence experiencing more positive feelings with family members. For non-married working mothers, being healthy was defined by the capacity to work and be productive; they emphasized the importance of promoting good relationships with family members and co-workers as cornerstones of their own health. For married non-working mothers, being healthy also was related to their capacity to perform daily chores at home, to take good care of their children and husband; good relationships focused on family members, especially with the husband as a significant contributor for their emotional well being.

Also related to self-perceptions about what constitutes being healthy, was found to be emotions as determinants of health status. For instance, the day by day efforts to feel good, cheering up themselves, identifying happiness as the most important factor influencing health, and a cognitive approach of not being overwhelmed by problems, all merged to integrate an optimistic vision of life as determinant of health. On the other hand, being worried by problems and letting down into sadness was described to provoke diseases.

"The mood also contributes to health, your own attitude; because if you think you are feeling sick then you get sick" (Francis, janitor, paragraph 208).

"Being healthy means physically and emotionally healthy; you would need both aspects to consider yourself as a healthy person" (Maria, salesperson, paragraph 185).

The social dimension was found in descriptions about having good interpersonal relationships with the family and co-workers complementing the optimistic vision, because avoiding conflict and building positive relationships contributes to that feeling of well being.

"Eating well, also having good relationships because this affects you emotionally. So you have to have good relationships with the husband, your children, at home with the family, in your job with co-workers" (Linda, secretary, paragraph 196).

In a few words, social relationships, emotions and cognitive/attitudinal approaches constitute key factors for being healthy.

Basically the groups differed in the productive activities, their preeminence, and the significant relationships involved in being healthy. For married working mothers energizing activities included their work followed by home chores. Both relationships with co-workers and family members, especially with children followed by husband, were described as equally important. For non-

married working mothers, having a good job and good relationships with co-workers allow them to meet their children's needs which are a main concern, besides developing good relationships with their children. For married non-working mothers, their families were described as the center of their world, and identified a good relationship with their husband, being energetic and positive as strong contributors to a nurturing environment for their children.

The spiritual dimension was also described by a participant in stating that that being spiritually satisfied provides the strength for fighting diseases:

"From the inside, in my spirit, I feel satisfied with my self and as long as I kept satisfied I think I can fight against some diseases that could make me feel sick". (Viviana, assistant at a community center, paragraph 12).

Another approach used by participants to define health was to acknowledge the set of factors that affect health status; it reflected what they knew but not necessarily what they practiced. They mentioned: (1) eating healthy as consuming fruits and vegetables, reducing meat and fat from diet, and avoiding fast foods; (2) keeping a healthy body weight; (3) exercising; (4) protecting children from extreme temperatures (cold and heat); (5) hygiene practices; (6) avoiding drinking alcohol and smoking cigarettes; (7) experiencing stress; (8) avoiding contact with allergens (i.e., dust) and (9) working or keeping busy as a way to avoid focusing on symptoms or ruminating personal/family

problems; activity as opposed to sedentary because activity energizes the organism.

From this perspective, being healthy mean doing things affecting the organism in its somatic dimension, coming from two main sources: social-emotional-cognitive source, and health promoting practices (i.e. eating, exercise, hygiene).

Family Practices for Health Promotion

Defined as the set of behaviors, techniques or activities used to sustain self-care for health or wellness in the context of family routines; family practices sustain social, emotional and physical wellbeing of the family systems and its members (Ford-Gilboe, 1997), the participants from the three groups mentioned almost the same family practices with variations in emphasis and the underlying conditions. Healthy eating or well balanced diet was mentioned by all participants. The components of that practice varied for each family and included some or all of the following features: consumption of fresh and natural products (fruits and vegetables, natural cereals) as an important source for vitamins, and fiber; reducing meat from diet and introducing more poultry and sea food into diet; reducing fat when cooking and choosing saturated fat or fat reduced products; reducing consumption of flour tortillas (prepared with fat) and substituting with corn tortillas; avoiding or reducing fast foods (hamburgers, pizza, fries, chips) and snacks for children –as much as possible-, and adults as well; an increase in consumption of drinking water and home made beverages,

and reducing sodas or bottled beverages from diet. The mothers also mentioned their preference for cooking and consuming foods at home as an effective strategy to guarantee a healthy diet and a good way to establish a routine, not skipping meals. Especially for children, quality and variety of diet is a main concern for mothers, that is, the idea of a healthy well balanced diet has permeated mother's practices. Mothers with chronic diseases reported to be especially careful with diet including only recommended products or more fresh products providing recommended supply of vitamins and minerals.

The second practice more frequently mentioned was exercise, with emphasis of its importance among children; outdoor' activities in the neighborhood and walking were more frequently mentioned; team sports was not a widespread practice. Most mothers expressed their need to exercise but several factors limited their involvement. The most common practice reported was walking for recreation and transportation in short distances. Only two mothers with better socioeconomic position reported to exercise with step machines, walking machines or weights.

A third practice also mentioned was promoting hygiene practices in children such as washing hands, daily showering, changing clean clothes daily, and tooth brushing. Hygiene practices were also mentioned when preparing foods, especially using clean water and washing fruits and vegetables, and finally providing a clean home environment.

The fourth practice identified was to avoid other unhealthy practices such as drinking alcohol and smoking cigarettes for mothers and children, mothers recognized the importance of parents quitting; avoiding foods out of home because at that point mothers would not have the control of what their children or husband are eating; and switching junk food for healthier snacks at the school.

A fifth set of practices mentioned by mothers included different protective actions for accident prevention, such as providing a safe space at home and playground, keeping an eye on their children when playing indoors or outdoors, attending the doctor's office for check ups and screening tests, vaccinations, taking vitamins or supplements, using homeopathy to prepare children to season breaks. Practically all mothers were found to have access to health social services and in consequence to use health primary prevention services for children as much as possible. Only one non-married working mother did not have a permanent source of health care. However, to compensate for this lack, more preventive practices such as vitamin supplements, more natural and fresh food, and natural remedies preparing the children for season breaks were implemented. Particular attention should be given to the group of married non-working mothers where three of its members that lived in a community originally settled as a squatter community lacks pavement in all streets, and tap water and sewage systems in some sectors, including those for elementary schools in the area; reported the need to take special care to protect their children, For instance, using mouth masks to protect children from dust, and drinking bottled

water to avoid drinking tap water containing high fluoride concentrations present in spring source of water.

When mothers were asked about what they do to stay healthy, they all recognized the importance of screening tests for cervical and breast cancer. Screening for cholesterol and glucose levels, were also mentioned. Mothers with a chronic condition (two in the group of married non-working mothers, one asthmatic and one anemic) reported being consistent with their own routine check ups. Also, these two mothers seemed more concerned and meticulous with their children's routine check ups.

When talking about health promoting practices, descriptions emerged about implementing strategies. One set of strategies were categorized as adjusting practices to environmental conditions such as weather, tap water supply, or facilities. Due to extreme temperatures during summer and winter the practices required some adjustments. For instance, to prevent dehydration during summer, mothers provide plenty amounts of drinking water; adjust timing for exercise routines or suspend all activities under extreme heat conditions; preferring to take their children to the country field or air conditioned facilities for recreation when possible. These practices also tend to compensate for limitations of space for recreation inside the house or lack of space for leisure activities in the neighborhood. Particularly, during winter almost all physical activity stops due to limited day light, low temperatures, and more importantly the high concentration of dust on the air. Similarly, during the winter, mothers

implement special protection practices for their young children using warm/heavy clothes.

For the last 2 years, tap water supply has been reduced by local authorities. The measure was implemented due to exhaustion of main water sources after 10 years of lack of rain, so authorities are rationing remaining sources. This measure has been forcing mothers' routines to adapt to water availability, storing sufficient amounts of water for 18 to 20 hours of shortage, some times more. Using bottled water for cooking or drinking was the common practice to avoid using tap water. No cases with health related problems were reported by participants.

A second set of strategies reported by participants focused on adjusting practices given the available resources of time as a result of work routines or schedules, and income. For married working mothers, time for cooking essentially defines the foods available, inclining the balance in favor of processed foods at the refrigerator (dairies, jams), cookies, box cereals, and fruits.

"I used to prepare breakfast for them. Now I say to my kids that I can't break myself into pieces by morning to groom their little sister and prepare breakfast for the grown ups, this is something they can do, to prepare their own breakfast" (Viviana, paragraph 316).

For non-married working mothers, sharing responsibilities sees found to be a useful way to alleviate time limitations. Four mothers in this group have extended families where grandmothers or older daughters share responsibilities

by dong the cooking. This group also described strategies to develop more responsibility with children in health issues. For instance, being responsible for home chores, hygiene practices, organizing and keeping belongings in good shape, and making own financial decisions. One mother in this group reported that due to her economic crisis limiting the available resources; so she has to prioritize the children needs and postpone their own. All mothers in this group promote eating at home with a twofold purpose, saving money and eating healthier. Eating out for breakfast or dinner in their mind is some kind of reward for all family members. Finally, these mothers seem more concerned and indulge their children as much as possible.

Time for exercising was found to be limited for the mothers and their younger children, especially for participating in sports teams and neighborhood activities. As means of adjusting exercise to time availability, mothers walk with their children. They also allow their children to play outdoors but limited to closed spaces of garages, backyards when available, or neighborhood streets. That last practice has been reduced dramatically, along with using playground facilities due to an increase of gangs and drug users in those areas, therefore mothers need time to supervise them. Mothers reported intensification of that phenomenon for the last few years. Only one family reported using gym facilities as young adults that were available for them as college students.

In all groups of mothers, income showed to impose limits on the consumption of fruits, vegetables and dairy products, mainly because mothers

prefer more satisfying foods (i.e. tortillas, beans, pasta, rice, potatoes, eggs, cheap hams) instead of not-so satisfying products, although one mother tried to introduce a few of inexpensive fruits and vegetables available in the super market. Other reported to substitute packed cereals for quesadillas or beans tacos, and home made flour tortillas, but in a limited quantity. This practice occurs when they have a limited amount of money. Similarly interesting, it was found that mothers usually are not imposing limitations for food consumption; they let their children take and eat everything they want, thinking that may be later they would not have anything to offer.

"I tell my children they can eat all they want if available, because there will be some days when we don't have anything to offer to them. They keep eating all day taking everything from the fridge." (Dinora, janitor, paragraph 281).

Another set of strategies described consist of adjusting practices to family preferences. All mothers in the three groups consider food preferences - in preparing meals for their children, for instance, the variety of fruits, vegetables, poultry, fish, and red meats to be included in favorite meals and put emphasis on mixing vegetables in every day meals. Also important, is finding ways to present food in an attractive or palatable manner for children. Finally, most mothers said that children's demands for hamburgers and pizzas are increasing every day, so they include those meals but do control in regards to how often children eat those products.

Particularly, married non-working mothers are more flexible with their children, preparing different meals for the more demanding family members. When economic resources are limited, mothers like pampering with favorite but simple meals, to compensate for narrowed food options.

Orientations toward Health Practices

According to Roden (2003) practices of health promotion have two possible orientations: (1) a negative orientation based on the idea of prevention as avoiding disease or keeping away the individual of getting ill; (2) a positive orientation for health promotion implementing educational approaches for skills acquisition, learning about making decisions, and taking responsibility on health issues. The mothers with a positive orientation emphasized how important it was for them to establish healthy habits and communicate as a mean of children's taking responsibilities for their own health. The negative orientation is best represented by the mother emphasizing being caring, supportive, helpful, and loving their children by means of protecting them from harm and disease; developing healthy habits have the purpose of protecting them.

Married working mothers see healthy habits as a way to effectively protect the children – negative orientation -,

"I try to protect my children as much as possible, from cold or heat, taking care of their clothes, the food" (Dinora, paragraph 301).

" Checking clean hands all the time, checking they get sanitized fruits and vegetables, using zip locks for carrying lunches" (Linda, paragraph 276.)

"I ask my children take a shower before going to bed every night; I don't care how tired they are, god knows how many microbes they got from all places" (Viviana, paragraph 272.)

Healthy habits are also viewed as taking responsibility and control over their own health – positive orientation-,

"I try to teach my children more about hygiene, to teach them how to do things because later in their life they will be self-proficient, so if they get a bad lazy woman they will know how to defend themselves. When I got married my husband did not have any skills, so my mother in law see with admiration all the changes, how he is helping me with the kids. I think this is an important part of education" (Linda, 3 male children, paragraph 175, 176).

"I think that educating my children, teaching by example, teaching them the difference between right and wrong, what they have to do and not to do, the rest is up to them" (Viviana, 2 boys and 2 girls, paragraph 465)

"I think communication and discipline are basic skills to promote with my children. If we keep communication I'm aware about their needs. Responsibility is important as well" (Viviana, paragraph 308).

I talk to my boy explaining the difference between right and wrong so he can make his own decisions later in life" (Francis, paragraph 320).

In conclusion, married working mothers seem to share both visions, being protective and taking care of their children, and teaching them self-help skills as well.

The group of non-married working mothers put more emphasis on promoting decision making with their children:

"Preventing diseases is very important, so I teach my kids to be cautious, to take care of themselves and to know exactly what they have to do; to take vitamins, to protect from sudden temperature changes, to eat healthy, avoid junk food" (Maria, paragraph 181)

Mothers with female adolescents are more emphatic about discipline, responsibility, and making wise decisions:

"Hygiene is very important, but also to keep their belongings clean and set; they have to learn they need to care for them because they own them" (Eduwiges, paragraph 422)

"We split responsibilities, my daughter cleans the house; I cook, wash clothes and make things get ready. Also my son and daughter have learned to take control over their clothes because if I have to go out to work they contribute with their own stuff. They know mother is working so they have to" (Maria, paragraph 226)

The group of married non-working mothers was more concerned about how to protect their children from disease, so practically health behaviors are oriented to avoid risks. They are more nurturing, emphasizing the responsibility

they have as mothers, instead of teaching children to take responsibility and make their own decisions. For instance, one participant expressed that the most important thing she does for the health of her children is to keep herself positive and energetic to support her children with everything they need (i.e., clean clothes, food, helping with homework).

"I think I have been a good mother in every possible aspect. Maybe I have sin of being too protective; they depend too much on me. I can't go out for too long because they are over the phone asking when I'm coming home" (Darla, paragraph 463).

Orientation toward health practices differed between the groups. Married working mothers share both positive and negative orientations; non-married working mothers keep a positive orientation; married non-working mothers share a negative orientation.

Barriers to Health Practices

The set of events, internal and external, affecting the family health promoting practices (Mendias, Clark, & Guevara, 2001) identified with the participants was set in four categories: (1) relational barriers, (2) economic barriers, (3) environmental barriers, and (4) physical barriers. The internal barriers are represented by relational events or characteristics affecting the family members and preventing them of implementing health promoting practices. Mothers reported relational barriers mainly affecting involvement in exercise. For girls, participation in team sports is expected to stop when reaching

adolescence; otherwise she is considered a tomboy. Most adolescent girls change their interest to sedentary recreational activities with teenagers or dating. Also exercising is not common practice for blue collar working women or housewives; they are expected to spend most of the time attending the family. Husbands usually think going to the gym is not appropriate for a married woman. Another barrier identified is difficulty of control over an adolescent's preferences and choices. An authoritative style imposed during infancy is not functional anymore because of the adolescent's tendency to resist to adult impositions.

"To control them is not that easy; I used to decide what they have to do but now they rebel, is not that easy anymore, so I get upset and in turn they get angry with me" (Viviana, paragraph 341.)

Another important issue reported was the common practice of going out for lunch or dinner as a leisure activity for family members, usually on weekends. This is a way to compensate for the limited amount of time dedicated by parents during weekdays. In turn, children keep demanding for "weekend diners" during weekdays as bribing the mother because she does not have enough time for cooking.

"Going out for dinner has turned to be a way to spend time together as a family. Sometimes I buy hamburgers or pizza for dinner on weekdays, because I don't have the time for cooking and because is a way to stop complaints because I'm late for dinner" (Viviana, paragraph 341).

Other relational barriers arise when mothers have been flexible and indulgent with children because is more difficult to establish healthy habits. This occurs in some married non-working mothers but also with non-married working mothers with problems of keeping their children supervised.

In the families of married non-working mothers it was frequently observed that the father rarely gets involved in health promotion practices with children. They maintain their traditional role of not getting involved in "women's business". The opposite is observed with families of married working women, with both parents actively involved with children; parents in this group are cooperative, sharing house chores with wives and sharing quality time with children.

External barriers such as economic barriers, are derived from economic limitations (lack of money to buy food, clothes, paying bills), usually low family income. In the group of working mothers, both parents were found to contribute to family expenses; nevertheless in some instances this was still insufficient to cover all family needs. Low income importantly affects buying groceries, so mothers limit the amount and variety of food available for their children. For instance they buy selected items such as low cost fruits; opt for home made products instead of packed foods; they only buy what is basic and not restore those items missing from storage. Other strategy followed by mothers was to sacrifice their own needs. A very similar situation has been observed in the group of married non-working mothers who may experience more economic limitations because only one person contributes to family expenses. The group of non-

married working mothers did not complain of economic limitations mainly because they live in an extended family where at least two persons have a job, with the exception of one family in this group with an alcoholic grandfather, who rarely contributes to family expenses.

The environmental barriers, such as time, weather, lack of appropriate space, and competing activities, mainly affect exercising. Weather was shown to affect all family members limiting outdoors' activities because Hermosillo is geographically located in a semi-desert area. Married working mothers, four of them with young children, mentioned lack of time to take their kids to team practices; limited space at home or safe space in the neighborhood for outdoors activities. For those who have more children, they reported more difficulties to attend to specific needs for every child, so they have to reduce options and they will keep exercise as an option depending on the importance they attribute. The same situation was reported by non-married working mothers with young children as well as having transportation problems.

For non-married working mothers, lack of time and competing activities were the main reasons limiting their involvement in exercise:

"I have two jobs, my day starts at 5 a.m. and ends at 10 p.m., please let me know what free time I have and what energy is left for exercising" (Celia, paragraph 55).

"I quit for exercising a year ago, maybe because my life changed. I'm baby sitting my grandson during afternoons because my daughter went back to school. I think is more important to assist my daughter and grandson. At the end of the day my energy went off, work and baby sitting is enough for me" (Maria, paragraph 143).

The situation changed with adolescents. The main barriers to exercise were competing social and school activities and lack of mothers' time to supervise how adolescents organize their own schedules.

Married non-working mothers have problems with children's exercising mainly because lack of comfortable and safe outdoor spaces. Mothers rely on what the children likes about exercising, usually circumscribed to house space limits or what they can do for school sports.

Also an environmental barrier found was policy about access to primary prevention services which turn out to limit the number of contacts with doctor's office to sickness. The regular check ups with pediatricians are no longer available, or at least in ISSSTESON (Institute of Security and Social Services for State Employees of Sonora), the system they were affiliated with. Physical barriers were also identified in mothers. These included injuries and chronic diseases that limited the exercise options.

In summary, exercise was found to face major limitations due to physical, environmental, and relational barriers. Healthy feeding practices were limited by economic barriers. Finally, preventive practices were limited by policy barriers.

Family Strengths and Resources Supporting Health Practices

Internal characteristics and external resources of the family members are key to understanding how families overcome barriers experienced by other families to implement health promoting practices (Ford-Gilboe, 2000). Resources are external to family dynamics and include income, a stable employment, social networks, socioeconomic status, education, and access to health services, among others. On the other hand, strengths are internal or relational characteristics supporting health practices, including perception of control, coping strategies, social support, and parenting alliance, among others.

The average years of education for the group of married working mothers were 11.2 years which is higher than the average of 8.8 years for women in Sonora and 7.9 years for women in Mexico (INEGI, 2006). Income was mentioned by all group participants as being limited and insufficient for attending family needs. The modest salary of these working mothers was reported as not being the primary source of family income but as a complement to family income. Additionally, working mothers provide other benefits supporting family health practices, for instance, having a permanent job provides some certainty to confront family needs; access to loans alleviates the burden of unexpected expenses; health insurance for the working mother and their children assure access to primary prevention services. Four mothers in this group had access to medical services at the work site, facilitating access to prevention programs such as regular checkups for cervical and breast cancer, blood pressure, glucose and

cholesterol levels, bone densitometry, birth control, hormonal replacement therapy and being prepared for menopause. All these mothers reported feeling satisfied with these preventive programs. Attending doctor's appointments is easier because the office is in charge of scheduling appointments on a regular basis. Generally speaking, they enjoy a more stable situation, which works as a buffering system for common stressful situations when compared with non-working mothers and/or those without health insurance.

The average years of education for the group of non-married working mothers were 9 years, which is higher than the average of 8.8 years for women in Sonora and 7.9 years for women in Mexico (INEGI, 2006). Participants in this group had stable jobs, and with 2 or more family members contributing to the economy, so they report not having financial problems. Any unexpected expenses experienced, was reported to be covered with loans. Access to health care services were the same for the group of married working mothers, therefore, they experience easy access to primary prevention services or when they are sick.

For the group of married non-working mothers, the average years of education are 10.2 years, also higher than the average for women in Sonora and Mexico, which is similar to the other two groups. Husbands in this group were found to have stable jobs except for one with occasional contracts (last year, held a job for 5 months). Generally speaking, the mothers in this group reported

economic limitations, but due to their efficient social network with relatives they are able to sort out limitations.

Strengths or internal relational resources detected during interviews were social support, parenting alliance, and coping strategies. Married working mothers have to spend time at work and additionally assume multiple roles as mothers, housekeepers, wives, daughters, and sisters. The burden associated with those multiple roles is alleviated when relatives contribute, such as cooking for the family, taking care of children while mothers keep working at their jobs, or cleaning the house. Aid is usually provided by husbands, grandmothers and older children.

Parenting alliance is a particular instance of social support and is defined as the perception of the ability of a parent to recognize, respect, and value the parenting roles and tasks of the partner (Cohen & Weissman, 1984). It is also conceived as the degree of commitment and cooperation between spouses for raising their children. Commitment and cooperation translate into an active parental role in child care activities, respecting the opinions of the other parent about child care, and communicating about children's needs (Abidin, 1992). Parenting alliance was perceived by mothers as an essential source of support. Its role is to buffer the parenting stress experienced by primary care takers. Instances of parenting alliance mentioned by the group of working mothers included spending leisure time with all family members, functioning as an escape valve to tensions emerging from daily interactions; taking walks together as

exercise and clearing their heads from routine. Mothers appreciate when husbands share leisure time with their kids, share worries, show interest about problems and achievements, and jointly decide rewards and fines. It seemed that the sharing responsibilities about daily chores positively affect the couple's involvement for problem solving and decision making.

The working environment was another source of stress for working mothers. They have duties to accomplish under pressure. Common coping strategies implemented were: getting along with chiefs, supervisors and co-workers; cognitive restructuring as trying not to get excessively worried about things they can't solve, being positive about problems, taking control of own emotions when being under pressure. Interestingly, some mothers perceived working as something positively affecting their health because it distracts them from family problems; they feel they are doing something positive to support their families, taking action and control instead of ruminating on problems.

The proportion of working mothers is growing enormously in the urban zone and with them new ways of parenting. All mothers that participated in this group shared opinions about how husbands were adjusting to this. Husbands recognize the effort their wives take to complete multiple tasks and roles sharing chores and responsibilities, however, the balance remains inclined to mothers making decisions about children. Husbands have opened their minds to new ways of family interaction.

For non-married working mothers, the main source of social support reported was their own older children, usually daughters. While some of them were studying, others were working, so they share responsibilities with mothers about house chores and contributing to family expenses if working. Usually non-married mothers try to create a climate of camaraderie and see daughters as partners sharing worries, making plans together, and creating empathy and alliances. Usually, what integrate an extended family are grandparents, aunts and grandchildren, more frequently feminine extended uterine families. Grandparents and aunts build "parent alliances" with mothers making decisions together about children's welfare, but education and discipline was found to be the mothers' exclusive domain. Coping strategies consist of developing feelings of self trust, self competence, and fulfillment. Positive relationships in the working environment, being responsible and energetic is also observed in these non-married working mothers. Perception of control in both work and family environments leads to feeling worth and satisfaction about their accomplishments.

The group of married non-working mothers reported being more oriented to take independent decisions about raising children. They clearly said they felt husbands did not care enough about raising children. Nevertheless, all mothers admitted husbands were good providers. Occasionally, mothers admitted they were territorial and set clear-cut limits to interactions between father and children. This course of action seemed to provide mothers with a sense of control, over

something the husband could not have. These mothers felt very proud about their children's achievements, not only in school but the dependency created between mother and children.

"I have been always a good mother in every aspect; maybe I sin because my children depend too much on me, they have autonomy in some way but pampered at the same time; may be I have been too protective and they will never go out of the nest" (Darla, paragraph 463).

"I feel I was very dominant, may be I should let my husband participate; I blocked his right" (Brigida, paragraph 843)

"I have always been more than a mother a friend with my children" (Brigida, paragraph 407). "My children prefer me over my husband ...he never knew how to handle difficult situations ...they stopped communicating" (Brigida, paragraph 796).

In summary, family resources to promote healthy practices come from social networks and work by providing health insurance for the mother and children. Family strengths come from social support with physical and material aids; parenting alliance with husbands or members of the extended family; coping strategies such as cognitive restructuring, taking control of emotions, and feelings of self-trust, self-competence, and fulfillment; developing perception of control as a certainty feeling to confront family needs experienced by working mothers, and a sense of children's dependency developed by non-working mothers.

Health as a Family Priority

When asking married working mothers about what the main parental responsibilities they have; it was found that for them promoting healthy habits constitutes a priority and equates in importance with being loving and caring. For mothers, health promotion was embedded in everyday efforts to educate, guide and raise children. Taking care of themselves also reflected the mother's concerns about their children. For instance, one participant expressed:

"I'm terrified (of having a hearth failure) because my children are too young, so as I take care of their health, I have to do the same for me" (Linda, paragraph 224).

The top role of fathers as providers shares importance with helping in home chores, sharing responsibilities, and sharing decision making with mothers.

Nevertheless, when mothers were questioned about who is responsible for fathers' health two opinions prevailed. The first opinion expressed was that they felt that husbands are responsible for their own health, mainly because husbands show some resistance to following healthy practices, such as eating well, exercising, quitting smoking cigarettes and drinking alcohol.

"I try to take care of my husband at home, but when he is out he gets messy. He is suffering for hypertension so I reduced salt and fat when cooking" (Francis, paragraph 405).

Also, men are reluctant to visit the doctor for regular check ups, or even when they are sick.

"I remind my husband about regular checkups, I have to insist a lot, but sometimes I can't succeed. I asked him about going to a walk with the kids but he would rather stay at home, he is kind of lazy" (Francis, paragraph 433).

Mothers feel responsible for their own health and their children especially when they are young and also to prepare them to take responsibility for their own health in the future. Non-married working mothers emphasized promoting healthy habits and keeping healthy as prerequisites to reaching personal goals though studying and developing personal responsibility. Married non-working mothers had similar expectations. For all participants in the study, being healthy, educated, clean and hardworking individuals is essential to reach any goal in life. A popular Mexican saying is: "While you have health, the rest of things are extra". This philosophy was shared by all participants.

Health seeking behaviors

Defined as a set of behaviors exerted by mothers and family members to recover from illness, health seeking behaviors describe the process of making decisions about how to recover health. It includes home remedies, over the counter medications, visiting the doctor, taking medications and following instructions from the physician (Mendelson, 2003a).

Respiratory diseases are the most frequent acute diseases in family members followed by gastric intestinal diseases. Extreme outdoors temperatures during summer with maximum during day of 98° F to 110° F contrast with inside doors temperatures 74° F to 80°F in air conditioned locations triggering respiratory diseases among children and adults. During winter, lowest temperatures rank from 32° F to 42° F, creating a huge contrast that the Sonorans perceive as extremely cold. Nevertheless, heat systems do not have generalized use as opposed to air conditioning during summer. This situation contributes to many cold cases during winter season.

Chronic diseases were found to affect mothers in all groups as well. Table 4 presents their distribution by group of participants. Most mothers did not complain of reduced mobility or dropping daily chores because of their condition, except for 3 participants who felt the need to reduce activity, and in some occasions they needed hospitalization for few hours while they were stabilized.

Table 4

Chronic Diseases Presented by Participating Mothers

Married Working mothers	*Condition*
Linda	Cholesterol, hearth arrhythmia
Viviana	Asthma, colitis
Francis	Allergy
Dinora	Migraine
Soledad	Not known
Non-married working mothers	
Celia	Allergy
Many	Essential hypertension
Eduwiges	Neural Dermatitis, back pain
Maria	Not known
Rosario	Migraine
Married non-working mothers	
Darla	Low blood pressure, anemia
Brigida	Asthma, gastritis
Laura	Migraine
Ines	Not known
Elma	Not known

Health seeking behaviors to attend to mothers' illness.

Similar health seeking behaviors were reported by participants in the three groups. Usually if chronic conditions are not debilitating, mothers ignored symptoms as much as possible; for first symptoms mothers take home made remedies, usually infusions, honey, fruits, or some topical herbs; if the problem persisted they take available medication formerly prescribed by the physician. The first measure was taking some rest, dieting, drinking water, and taking

medication only if necessary. Two mothers with allergy reported they try to prepare to break seasons with vitamins or herbal remedies to strength immune system; the rest of mothers with allergy just wait the problem to appear. Participants with migraine complained of ineffective drugs, so no control over the condition was perceived as possible; nevertheless, they visit doctor's office more often during recurrent crises. Particularly, mothers with debilitating conditions tried to stick to doctor's advice, but once in a while they skip treatment.

Mothers postponed visiting the doctor's office as much as possible for the chronic conditions or acute diseases. A common practice was self-medication taking leftovers previously prescribed for any family member, or following recommendations from significant others (family members, friends, coworkers). A common reason to keep medication and take it when a health problem presents was the mother complaining that they knew what the doctor is going to prescribe, so they couldn't waste time visiting and waiting for long. Mothers thought they didn't have time because there were competing activities and duties with children, so they chose to keep on duty unless the symptoms turned severe. Sometimes they postponed visiting the doctor until they got some help for taking care of children. If taking medication prescribed by the doctor, some mothers interrupted the treatment if they feel they are getting better, so they kept medication for future occasions.

Health seeking behaviors to attend to children's illness.

No chronic conditions were reported for children, so description of health seeking behavior refers to acute respiratory and gastric diseases. As soon as children are sick mothers kept alert of symptoms. Usually it is easy to detect when they are not feeling well. The path for recovery varied enormously from what mothers did to heal themselves. For example, mothers din't wait for severe symptoms to appear in children to decide going to doctor's office or the emergency room; mothers did not use self-medication, only to control fever meanwhile they got medical attention; fever was not ignored. Some mothers reported previous bad experiences with self medication over their selves; therefore, they have fear of something similar to occur if they do it with children.

All mothers, except two of them have health insurance for the children; this facilitated seeking medical attention. Sometimes they said they knew the problem and medications the doctor will prescribe, but they didn't care about spending time and resources to get medical attention. If the problem started out of regular attention hours, they sought attention at doctor's private office and paid for it. This last practice occurred when mothers felt comfortable and trusted the attending doctor. When mothers did not have time to look for an appointment which takes about 6 hours to get and come back next day for appointment, they went to pharmacies of similar or generic equivalent drugs; the pharmacies have attending doctors with cheap honoraria and prescribe cheap medicines available at the same location.

Few mothers, two, made decisions about treatment based on opinions of relatives or neighbors. Especially with aggressive treatments, they quit based on bad experiences reported. Finally, only one mother reported taking her children with a woman called "sobadora" because she is using massage to heal "susto" or being scared as a consequence of observing a fatal accident where a friend died.

Barriers to Health Seeking Behaviors

Based on the definition of barriers proposed by Mendias, Clark, & Guevara (2001), barriers to health seeking behaviors are defined in this study as events, circumstances affecting adversely or constraining health seeking behaviors. Due to mothers following different paths when seeking for attention of children versus for themselves, it was observed that barriers also differ for both cases.

Barriers to health seeking behaviors to attend mother's illness.

Competing activities and lack of social support were common barriers to mothers' decision to visit the doctor's office when they are sick. Taking care of kids and working out schedules for working mothers, added to lack of assistance to get some time for themselves generally combined to prevent mothers to visit the doctor's office. For example, one mother had to wait for her husband for his day out of work to seek medical attention, so she postponed appointments even when she was sick.

A second set of barriers were those associated with the social security health system such as accessibility and effectiveness. Almost all mothers complain that available appointments were not immediate, so mothers had to start with self-medication, postponing visiting the doctor as much as possible; for mothers, visiting the emergency room was not an option, except for injuries or crisis. Some mothers reported they are unsatisfied with access to medication and its quality. For instance, if medication was not available they had to went back to the clinic to got it, but sometimes they needed to wait for weeks. If the implied cost was too high they chose self-medication, or looked for similar and interchangeable generics medication where they got the same medication provided by the social security systems at low costs. There was a widespread opinion that similar or generic drugs are not just cheap but ineffective; one mother reported an incident when she got a similar drug prescribed for an infection but she did not observe any recovery over past few days, as a result she asked for an opinion from a private doctor, who prescribed an expensive drug and she observed improvement in a few days. Similar experiences shared by other persons lead to the conclusion that similar drugs prescribed by the social security health services are not effective. The alternative these mothers took if they had the money was that they went to a regular drug store and bought the original drug. The above-mentioned deficiencies experienced with the social security health system are very common in the population, creating mistrust that is transmitted to other individuals. An interesting example of that was the

participant without health insurance; she felt she was healthy, but the last time she went to the doctor's office was 14 years ago. At that time she had private health insurance but she lost it when she was divorced. Because she can't afford the same private health insurance she is reluctant to visit the doctor. She has the option for social security but she was fearful of getting low quality care.

Barriers to health seeking behaviors to attend children's illness.

The more frequent barrier identified by mothers from the three groups was restricted access to doctor's office for regular checkups and for being attended by a specialist. Both restrictions were related to a policy of reducing costs. A second barrier was the long periods of time the mother needed to spend to get an appointment and the long waiting periods to get care. Spending extra money to get care from the private sector and asking for permission at work, both affected the economy of these families. Another problem turned into a barrier was the mobility of attending doctors because mothers felt the children didn't get adequate care; most of the times the doctor was assigned at random by a receptionist. Once the mother found a physician with she felt comfortable, she got appointments in a doctor's private practice whenever possible, which again affected the family's economy.

Strengths and Resources to Health Seeking Behaviors

Based on the definition provided by Ford-Gilboe (2000) for strengths and resources to implement health promoting practices, the same conceptual

definition was applied for strengths and resources for health seeking behaviors. Resources are external to family dynamics and include income, a stable employment, social networks, socioeconomic status, education, and access to health services, among others. On the other hand, strengths are internal or relational characteristics including perception of control, coping strategies, social support, and parenting alliance, among others. When analyzing barriers to health seeking behavior, the routes taken by mothers to overcome those barriers were already mentioned. Basically the mothers looked for alternate ways to get medical attention for children; many times this meant they needed to get extra money through loans, putting out of balance the family's economy. Nevertheless, mothers had other resources as well.

Mother's ability to construct social networks with family and members of the community was a basic resource for dealing with sickness. Identifying nurses or skillful individuals for injections, treating burns or lesions, reduced the need to visit the emergency room or the clinic. One participant mentioned the importance of good relationships with neighbors when her family went through economic crisis. She asked a doctor living in the neighborhood what medications she needed and asked neighbors to lend medications. Currently she was doing the same for other neighbors.

Also, the ability to save money or getting loans was an important resource. Being a working mother also eased the access to loans with credit unions. Negotiating credit or reducing cost for consulting the doctor in the private sector

was an asset positive affecting access to medical care. Members of the extended family were also potential sources of aid. Family members provided material aids (money, medication) or physical aids (taking care of the family member when sick). For Mexican families more members can easily share responsibilities and provide support when a member is sick, this is especially true for non-working mothers because this is their major asset; husbands are not as cooperative as mothers wish. For married working mothers, husbands were the most important source of support; for non-married working mothers members of the extended family living together covered the support function. A second source of aid were close friends or neighbors providing same aid as family members; sometimes they were the first line of help if the family was not available.

Although the mothers did not report any major injury or sick event, it is highly probable they will stay with social security health services. Even if the family wishes to get private attention they do not have enough economic resources.

Satisfaction with Health Status, Quality of Life, and Needs to Improve Health Status of Families

Married working mothers felt largely satisfied with health status of the family. Interestingly their comments were based on satisfaction with medical services, not with resources supporting health promoting behaviors. They reported feeling satisfied with having found a physician they feel comfortable with and found trustworthy; except for a mother with a daughter with a chronic

condition, who was not entirely satisfied with the medical attention. In general mothers felt they had what they need to keep their families healthy, except for lack of time, routines, and facilities for exercising. A particular concern was husbands' health status. Through the interview mothers realized their husbands need to take more responsibility about health issues such as dieting, quitting drinking alcohol and smoking cigarettes, exercising, and attending regular checkups.

For non-married working mothers, four reported feeling satisfied with health status of family members; they thought they have the resources to keep the family healthy, that they keep alert on family needs, and at the same time they try to promote responsibility with their children. Only the mother with an alcoholic father reported feelings of helplessness, mainly because the adult members (herself, grandmother and grandfather) have chronic conditions, and the two daughters also presented minor health problems; in consequence the mother did not feel in control of her life and her daughters' life.

Married non-working mothers felt satisfied with their health status, but through the interview they reported some deficiencies they needed to resolve, such as to promote exercising with overweight children. Generally speaking this group of mothers did not show a particular concern about their husbands because they kept distant about own health issues.

Expectations for Policy Changes

During interviews, because of current election campaigns for president, federal and local representatives, it made sense to ask what policy changes the mothers expected from authorities to improve the health status of the population. The main concerns were: (1) environmental issues such as need to improve streets pavement and increase forestation in their communities; improve water supply and quality of water. (2) Controlling access to what they call junk food in schools, and controlling advertising because children get easily impressed and become more reluctant to consume healthy food. (3) Get more information through the media about diseases and promotion programs available in the community. (4) Service and medication issues that include: cutting prices of medications; improving quality of generic drugs prescribed through the social security health system, because they feel generics are not as effective as innovative drugs or original pharmaceuticals; improving drug supply in pharmacies in the social security system; improving specialized equipment in the social security system hospitals and clinics so they will not need to be referred to private clinics and receive discriminatory attention; improving the attention and professionalism of doctors because of the discrimination they experience with the same doctors in the public versus private practice; improving access to public services and the quality of the care delivered, cutting delays, paperwork, and waiting-list times to talk with a specialist.

Demographics of Participants in the Quantitative Component

The sample for Sonora for the National Survey for the Evaluation of Health Services 2002-2003 included 693 adult women 18 years of age or more, with 120 living in the rural zone, and 573 living in the urban zone of the state of Sonora, although 189 cases of single never married women were eliminated because this segment of population was out of the interest of the research. Therefore the final sample was constituted by 404 cases. For this study the sample of the urban zone was selected and described. Table 5 shows demographics for the sample according with marital status grouped with the same criterion of the qualitative component sample, that is, living with a partner (married) and living without a partner (non-married).

Table 5

Descriptives for Demographic Data of Participants in the Quantitative Component, by Group of Marital Status and for Total of Participants

Marital status	Age	Years of education	No. family members	Currently working	Occupation
Married (n=365) 90.35%	M= 39 SD= 14.2 Min= 18 Max= 84	M= 8 SD= 4 Min= 0 Max= 20	M= 4	Yes= 84 (23%) No= 281 (77%)	Managerial= 13 (15.5%) Clerical= 21 (25%) Manual= 50 (59.5%)
Non-married (n=39) 9.65%	M= 42.2 SD= 19.8 Min= 18 Max= 92	M= 8 SD= 4.8 Min= 0 Max= 18	M= 4	Yes=39 (100%)	Managerial=4 (9.2) Clerical= 18 (47.2%) Manual= 17 (43.6%)
Total (N=404) 100%	M= 39.4 SD= 41.7 Min= 18 Max= 92	M= 8 SD= 4.4 Min= 0 Max= 20	M= 4	Yes= 123 (30.45%) No= 281 (69.55%)	Managerial=17 (13.82%) Clerical=39 (31.71%) Manual=67 (54.47%)

The marital status of selected cases of women living in the urban area of Sonora was mainly married (90.35%), age of 39.4 for the total sample, with 8 years of education, mean number of family members of 4. A major proportion of married women were not currently working (77%), mainly because they were taking care of the family. For both groups of marital status, occupation is mainly in manual positions followed by clerical positions.

Descriptive Analysis of Selected Sections of the National Survey for the Evaluation of Health Services 2002-2003

In order to analyze data provided by the National Survey for 573 cases of women living in urban zone of Sonora the file was split by (1) marital status with two categories: married (married and co-habitating) and non-married (separated, widowed, divorced); (2) occupational status with 2 categories working and non-working individuals. Resulting groups kept for analysis were: married working women (84 cases), married non-working women (281 cases), and non-married working women (39 cases) for a total of 404 cases. All participants were adults 18 years of age and older (range 18 to 65).

The selected sections of the national survey were: (1) evaluation of health status and quality of life through indicators of mobility and performing intense activities; performing activities of personal care; level of pain and discomfort experienced; cognitive functioning through capacity to focus, remember and learn new things; social relationships and coping with conflict; vision through capacity to see across the street and focus on near objects; sleep disorders and vital energy; experiencing emotional states of depression, anxiety, and worryness; (2) risk factors for health such as smoking, drinking alcohol, physical activity, and environmental risks; (3) access and quality of attention provided by the social health system; (4) sense of control of daily living demands, and satisfaction with health status. Most of the items had responses with a 5-point Likert scale either of intensity, frequency, or agreement. For each section the

corresponding scale is specified; items for risk factors correspond to scale level of measurement. Response rate varied with section mainly because some items required responses if a condition required it. For instance, smoking and drinking patterns focus only on those respondents previously affirming they were consumers; patterns of physical activity were questioned only for cases reporting activity during last 7 days.

Evaluation of Health Status and Quality of Life

Items included in this section were responded with a 5-point Likert scale with low scores indicating better health status (very good=1 through very bad=5) and better quality of life (any difficulty experienced=1 through experiencing extremely difficulty=5). In general, the three groups rated health status as "Good" and indicators of quality of life show that women rated quality of life as not experiencing difficulties to perform activities; not experiencing discomfort, diminished general functioning, self care difficulties, pain and discomfort, social and cognitive difficulties, vision or negative emotional states (all rated with median=1).

Risk Factors for Health: Smoking, Drinking Alcohol, Physical Activity, and Environmental Risks

For risk factor smoking cigarettes data are presented in table 6. A major proportion of non-married working women were regular smokers (daily and less than daily). The following responses came from daily smokers only; years of

smoking ranks differs between three groups, but due to unequal number of cases per group any conclusion about statistical significance of differences can be reached. Number of cigarettes consumed per day varied for each group but most frequent value was 3. Women usually start during adolescence. Although data are not conclusive because of the reduced number of respondents, it seems smoking was more frequently practiced by non-married working women.

Table 6

Smoking Practices for Groups of Married Working Women, Married Non-working Women, and Non-married Working Women

Group	Percentage smokers	Rank for years of smoking **	Cigarettes per day **	Rank for age first cigarette**
Married working women (*n*=84)	Yes - 19% (*n*=16) No - 81% (*n*=68)	6 to 14 years (3 cases)	1 to 10 (*Mode* =3)*	14 to 40 years old -
Married non-working women (*n*=281)	Yes - 16% (*n*=45) No - 84% (*n*=236)	2 to 40 years (15 cases)	3 to 20 (*Mode* = 3)*	12 to 40 years old (*Mode* = 13)
Non-married working women (*n*=39)	Yes - 31% (*n*=12) No – 69% (*n*=27)	2 to 23 years (3 cases)	3 to 5 (*Mode* = 3)*	13 to 17 years old (Mode = 13)

* Multiple modes exist, lower value was selected

** Data correspond to daily smokers only

Drinking alcoholic beverages, mainly beer is a widespread accepted practice for both men and women in Sonora; data appears in Table 7. The highest percentage of women reporting drinking alcohol at least once belonged to non-married working women, with similar response rates for both groups of married women. For those women who drank alcohol, consumption rates for last 7 days were low, but still highest rates persisted in group of non-married working mothers. Age for first alcohol drink indicates an early beginning during adolescence around 13 to 15 years of age but more prevalent around 20 years old. Although a reduced number of cases reported drinking practices distribution is still interesting.

Table 7

Drinking Practices for Groups of Married Working Women, Married Non-working Women, and Non-married Working Women

Group	Percentage drinkers	Consumption last 7 days **	Rank for age first drink **
Married working women (*n*=84)	Yes - 25% (*n*=21) No - 75% (*n*=63)	Yes – 19% (*n*=4) No – 81% (*n*=17)	15 to 48 years old (*Mode* =20)
Married non-working women (*n*=281)	Yes – 30% (*n*=83) No – 70% (*n*=198)	Yes – 7% (*n*=6) No – 93% (*n*=77)	15 to 50 years old (*Mode* =20)
Non-married working women (*n*=39)	Yes – 49% (*n*=19) No – 51% (*n*=20)	Yes – 26% (*n*=5) No – 74% (*n*=14)	13 to 28 years old (*Mode* =18)

** Data correspond to at least one ever drinkers only

Physical activity by level of intensity reported by the three defined groups of cases appears on table 8. Intense physical activity by at least 10 continuous minutes was reported more frequently by married working women (27% of cases) followed by married non-working women (20% of cases) and non-married working women (10%); mean days a week practicing intense physical activity and mean duration per day also is higher for married working women followed by married non-working group, and non-married working group. The source of such activity is mainly related to type of job (i.e., manual) for working women and exercise for non-working women. Moderate physical activity by at least 10 continuous minutes increases for all groups for all parameters (number of cases, mean days a week, and mean duration per day) with similar values but lightly higher for married non-working women. For walking at least for 10 continuous minutes there are similar values of cases and mean days a week for each group, if compared with the same parameters for moderate activity; mean duration per day decays for all groups. For all types of physical activity and the measured parameters, non-married working women present the lowest estimations. Generally speaking, women in the urban zone of Sonora got involved into a lesser extent in intense physical activity (less of 30% of cases) and their involvement increased for moderate activity and walking (64 to 77% of cases).

Table 8

Physical Activity by Level of Intensity Practiced Last Week for Groups of Married Working Women, Married Non-working Women, and Non-married Working Women

Group	Married working women (*n*=84)	Married non-working women (*n*=281)	Non-married working women (*n*=39)
Intense	Yes – 27% (*n*= 23)	Yes – 20% (*n*=57)	Yes – 10% (*n*= 4)
	No – 73% (*n*=61)	No – 80% (*n*= 224)	No – 90% (*n*= 35)
	Mean days/week =4.8	Mean days/week=4.1	Mean days/week= 3.3
	Mean duration per day = 3.75 hrs.	Mean duration per day = 1.82 hrs.	Mean duration per day = .5 hrs.
Moderate	Yes – 75% (*n*=63)	Yes – 73% (*n*=206)	Yes – 69% (*n*=27)
	No – 25% (*n*=21)	No – 27% (*n*=75)	No – 31% (*n*=12)
	Mean days/week =5.7	Mean days/week =6.1	Mean days/week = 5
	Mean duration per day= 2.69 hrs.	Mean duration per day= 3 hrs.	Mean duration per day= 3 hrs.
Walking	Yes – 76% (*n*=64)	Yes – 77% (*n*=217)	Yes – 64% (*n*=25)
	No –24% (*n*=20)	No – 23% (*n*=64)	No – 36% (*n*=14)
	Mean days/week = 5.7	Mean days/week = 5.5	Mean days/week = 5.4
	Mean duration per day= 2.18 hrs.	Mean duration per day= 1.54 hrs.	Mean duration per day= 1.2 hrs.

Environmental risk factors include household conditions of floor and walls materials, water and sewage availability inside the house, and source of energy for cooking and heating systems. These indicators point to exposure to climate events and associated risks for respiratory and gastric infections, and indirectly for level of comfort and well being which are directly related to income.

For household floor and walls materials, more resistant materials are prevalent in a high percentage. Access to tap water inside the house or house lot is also prevalent; sewage system available is not as accessible as water supply indicating some proportion of surveyed cases living in poor neighborhoods, usually squatter communities with latrine or septic tank instead of connections to the sewage system (see table 9). In summary, household conditions indicate low risk for gastric or pulmonary diseases, except for families with soft materials in floors and walls, water from a covered well, and an inadequate sewage system. Risk was similarly distributed among groups.

Table 9

Household Materials, Water Supply, and Sewage for Groups of Married Working Women, Married Non-working Women, and Non-married Working Women

Group	Flooring material	Walls material	Water supply	Sewage system
Married working women (n=84)	Hard –95% Dirt – 5%	Hard – 99% Soft – 1%	Tap – 99% Covered well- 1%	Yes = 88% No= 12%
Married non-working women (n=281)	Hard- 96% Dirt – 4%	Hard- 98% Soft- 2%	Tap – 99% Covered well- .5% Uncovered well- .5%	Yes- = 91% No = 9%
Non-married working women (n=39)	Hard – 100% Dirt – 0%	Hard- 100% Soft- 0%	Tap – 100%	Yes = 97% No = 3%

Household's kitchen location and sources of energy for cooking and heating materials used by groups of cases appear in table 10. More frequently used energy for cooking is gas, which is prevalent in the urban zone of Mexico because its low cost if compared to electricity; usually households using portable electricity stoves correspond to low income families. The three groups have a similar distribution of energy for cooking. Similar distribution of type of room used for cooking is present for all groups; multifunctional rooms corresponds with reduced-space houses mainly because families use to build more rooms as needed or once they have some savings to restart constructing ; exclusive room outside the house frequently indicates improvised spaces and wood stoves for cooking. Use of heating systems is not a frequent practice among cases for the three groups of women. Due to semi-arid and arid climate prevailing in Sonora, habitants are more concerned with acquiring some kind of cooling system; it is not a common practice to have general heating systems, but portable utilities; wood sticks are frequently used in kitchen rooms outside the house. In general, cases surveyed seem to represent low and middle class social strata, with major risk for gastric and pulmonary infections in households with kitchen located in a multifunctional room or outside the house, using electric devices or wood for cooking, and wood as heating fuel. Risk is similar for all groups of women.

Table 10

Household Kitchen Location and Sources of Energy for Cooking and Heating Materials for Groups of Married Working Women, Married Non-working Women, and Non-married Working Women

Group	Cooking Energy	Kitchen location	Heating system	Energy heating system
Married working women (n=84)	Gas – 99% Electricity – 1%	Multifunctional room – 11% Exclusive room inside – 81% Exclusive room outside -6% Open space – 2%	Yes = 19% No = 81%	Gas – 38% Electricity – 31% Wood –31%
Married non-working women (n=281)	Gas – 99% Electricity - .7% Wood – .3%	Multifunctional room –7.5% Exclusive room inside-87.5% Exclusive room outside – 2.8% Open space – 2.2%	Yes = 17% No = 83%	Gas – 52% Electricity – 23% Wood – 25%
Non-married working women (n=39)	Gas – 97% Electricity – 3% Wood – 0%	Multifunctional room – 3% Exclusive room inside – 90% Exclusive room outside – 7%	Yes = 21% No = 79%	Gas – 13% Electricity – 50% Wood – 37%

Access and Quality of Attention Provided by the Social Health System

Selected aspects for description of the attention provided by social health system to women living in the urban zone of Sonora were: preferred health care provider, access to medication prescribed, satisfaction with services provided. For preferred health care provider (see table 11) main options are the social security services provided to working individuals and their families; any worker

has access to IMSS (Mexican Institute of Social Security), and workers with the government have access to ISSSTE (Institute for Security and Social Services for State Workers); Health Sector provides health to any individual out of the social security; "other" option could be private services, or ISSSTESON which provide social security services for individuals and their families working with the government in Sonora. Because the questionnaire is asking for health care services provided during last 12 months either the respondent or her children, response rate decreased in all selected groups of women although kept proportional to original group size. At the same time proportion of preferred health care provider remains similar between groups with higher percentages for IMSS and the "Other" category reflecting the mix previously mentioned.

Table 11

Preferred Provider for Last Visit to a Clinic or Hospital for Medical Attention for Groups of Married Working Women, Married Non-working Women, and Non-married Working Women

Group	Preferred health care provider			
	IMSS	ISSSTE	Health Sector	Other
Married working women (n=39)	56.4%	5.2%	12.8%	25.6%
Married non-working women (n=140)	51.4%	8.6%	12.9%	27.1%
Non-married working women (n=13)	46.2%	15.4%	7.7%	30.7%

Medication is usually provided by IMSS, ISSSTE and ISSSTE cost free, and to very low prices by Health Sector. The reduced frequencies of cases that could not get all the medication may be obeyed to that situation (see table 12).

Table 12

Access to Medication Prescribed Last Time Visiting the Clinic or Hospital for Medical Attention for Groups of Married Working women, Married Non-working Women, and Non-married Working Women

Group	How many medicines did you get?					Reason why not?	
	All	Almost all	Some	Very few	None	Couldn't afford	Couldn't find
Married working women (n=65)	95.4%	3.1%	-	-	3.1%	50% (1 case)	50% (1 case)
Married non-working women (n=221)	92%	4.5%	.40%	1.4%	1.7%	25% (3 cases)	75% (9 cases)
Non-married working women (n=29)	96.6%	3.4%	_	_	_	_	100% (1 case)

Overall satisfaction with services provided was evaluated also in the context of the attention received last time individual went to visit the doctor's office. Balance is inclined to neutral and satisfaction options with 75% of cases or more (see table 13). More detailed information about satisfaction with particular aspects of attention would be more informative.

Table 13

Satisfaction with Health Care Services Provided During Last Time Visiting the Clinic or Hospital for Medical Attention for Groups of Married Working Women, Married Non-working Women, and Non-married Working Women

Group	Very satisfied	Satisfied	Nor satisfied nor unsatisfied	Unsatisfied	Very unsatisfied
Married working women	15.4%	30%	32%	14.3%	8.3%
Married non-working women	10.7%	41.6%	30%	11.7%	6%
Non-married working women	18%	33%	31%	10%	8%

Overall Satisfaction with Health Status

Last information selected from the National Survey was an estimation of satisfaction with current health status and an estimation of sense of control over life events of surveyed women. Distribution of estimations of capability to control over important issues is very similar for all groups. Generally speaking around 75% of surveyed women felt in control of important events. When estimating capability to deal with duties or responsibilities distributions are also similar for all groups, indicating around 75% of the time surveyed women feel able to deal with duties and responsibilities. Finally, level of satisfaction with health status favored lightly non-married working women, followed by married working women and

married non-working women; this appreciation was based on distribution of cases in last 2 categories labeled as being unsatisfied.

Table 14

Perception of Control over Life Events and Satisfaction with Health Status for Groups of Married Working Women, Married Non-working Women, and Non-Married Working Women

Group	Unable of controlling over important issues				
	Never	*Almost never*	*Sometimes*	*Often*	*Very often*
Married working women (n=84)	49%	24%	20%	7%	_
Married non-working women (n=281)	51%	25%	19%	3%	2%
Non-married working women (n=39)	51%	25%	18%	3%	3%
Group	Unable to deal with duties and responsibilities				
	Never	*Almost never*	*Sometimes*	*Often*	*Very often*
Married working women (n=84)	47%	19%	30%	4%	_
Married non-working women (n=281)	52%	23%	21%	2%	2%
Non-married working women (n=39)	56%	23%	15%	3%	3%
Group	Satisfaction with health status				
	Very unsatisfied	*Unsatisfied*	*Nor satisfied nor unsatisfied*	*Satisfied*	*Very satisfied*
Married working women (n=84)	12%	2%	19%	56%	11%
Married non-working women (n=281)	10%	7%	15%	53%	15%
Non-married working women (n=39)	5%	3%	28%	51%	13%

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

This chapter presents main conclusions reached, a discussion about the meaning and importance of the results for the field of public health, and recommendations for future research on the subject of family health promotion practices.

Summary

The purpose of this research was to study the family health promotion practices of a sample of Mexican mothers living in the state of Sonora Mexico through a concurrent mixed method approach that included a qualitative component with face to face and in-depth interviews, investigator observations, and analysis of content; the quantitative component consisted of statistical analysis of data from selected sections of the National Survey for the Evaluation of health Services 2002-2003. For the qualitative component a total of 15 mothers, with mean age of 40 years, mean years of education of 10 years, living with their families including children, husband, or direct relatives , were selected to form a purposive sample, and assigned to one of three groups: married working mothers, non-married working mothers, or married non-working mothers. The qualitative component was naturalistic and descriptive, using semi-structured

interviews with the mothers to collect the information. The quantitative component had two sources of information: (1) Individual questionnaires exploring the demographic characteristics as well as the housing conditions surrounding the family lives of the mothers participating in the qualitative component; (2) survey responses provided by the database of the National Survey for the Evaluation of Health Services 2002-2003, particularly the data from 404 female adults aged 18 and older, living in the urban zone of Sonora at the time of the survey.

Conclusion

The study aimed to describe the health promotion practices, health promotion orientations, resources, and strengths supporting the practices, the barriers to such practices, and the health seeking behaviors of Mexican Sonoran families. Each variable described was selected based on previous research in family health and operationally defined with the purpose of facilitating the analysis of the obtained information. The particular characteristics of each variable were covered and presented through the description of results. Main findings from interviews with mothers are presented in the following lines; first highlighting commonalities among all participants in the three groups. Then, it will continue with a comparative analysis between findings in the qualitative component and the information obtained from the selected sections of the National Survey for the Evaluation of Health Services 2002-2003.

Health was conceptualized by the participants in the qualitative component as a multidimensional state with physical, emotional, social and spiritual facets. Special attention is given to the participation of emotions, social relationships and being involved in some activity as sources of health involving a double loop of cause and effect. Being positive or optimistic about the present and the future contribute to health on face of limited resources; social relationships are an essential source of happiness; having some productive activity operates also as a source of satisfaction and control about things. Non-working mothers stand more on family relationships as source of satisfaction and optimism, and working mothers add to the equation social relationships in the working environment and being productive through work. Mother's activity is a double path to health as a source and as a vehicle to keep healthy. Groups only differ in the sources of activity and the significant relationships involved in being healthy. For working mothers being involved in a job gives them a sense of self-control and self-confidence; this might be a factor explaining differences in orientations to health practices and shifting to more democratic relationships with couples (for married mothers) or children (for non-married mothers). In a word, social relationships, emotions and cognitive/attitudinal approaches constitute key factors affecting feminine human body.

A major difference found between the three groups of mothers was the orientations toward health practices. Mothers dedicated full time to their families are more protective and take full responsibility of health issues for the children.

Working mothers with a partner are protective as well, but they try to promote self-help skills among husband and children. Non-married working mothers are at the top of promoting health practices by means of raising more self-efficient children, taking care of themselves and making independent decisions.

Mothers living in urban settings knew what healthy practices are, so they are trying to integrate that knowledge on a day by day basis. Main health practices identified by mothers were eating healthy, exercising, protecting children from extreme temperatures, hygiene practices, avoiding drinking alcohol and smoking, avoiding contact with allergens, having preventive medical check ups, especially with pediatricians, and preventing accidents. They also try to adjust practices to family preferences and resources as a way to be effective.

Sources of support for family health promotion practices differed among groups, but were essentially kept around the family. The group of non-married working mothers held on social support in the manner of team work buffering the burden of being alone with a double role as caretaker and provider. More satisfaction with health status of the family members seems related to mothers' capacity to involve family members in team work. Married working and non-working mothers rely on nuclear family relationships as sources of social support and building parenting alliances with the father.

Health practices were limited by relational, economic, environmental, and physical variables. Healthy feeding practices were impacted by economic resources but permeated by family preferences and beliefs about nutritional

value of different foods. When lacking enough money to buy food two tendencies for selecting foods were observed: (1) preferences for fresh fruits and vegetable products, and home made cereals; or (2) animal origin foods mainly milk, eggs and meat –in that order- as sources of nutrients specially required for children. Exercise practices were restricted by environmental and economic circumstances. Other practices as reducing contact with allergens and hygiene habits were limited by environmental conditions. For children, the main problem was lack of safe spaces and extreme temperatures which superseded other arrangements that mothers can make to overcome lack of time and competing routines. For mothers, added limitations were social conventions especially for married non working mothers. In addition, they reported that access to primary prevention services is narrower every day because of restrictions imposed by the social health care delivery system's policy.

Clear differences appeared in health seeking behaviors for sick children compared to sick mothers. More resources are dedicated to children's wellbeing with most expedited actions; on the contrary, sick mothers wait as much as possible and allocated fewer resources for their own wellbeing. The main barriers for health seeking behaviors were related to the social health care delivery system leading to more catastrophic expenses such as having to use the private health care system and practitioners.

Mothers reported satisfaction with health status of the family members was high and their opinion was based in the first place on having social health

care services, and on lack of impediments to work and not being sick or affected by debilitating conditions. Regarding expectations for policy changes, these were related with the social health care delivery system and with environmental circumstances affecting the quality of life of individuals living in urban settings, such as the physical environment and the socioeconomic conditions surrounding their daily lives.

On the other hand, data provided by the National Survey for the Evaluation of health Services showed that Sonoran women living in the urban area perceived their health status and quality of life in a similar way to the participants in the qualitative component of the study. Both samples reported being energetic when doing work, not being experiencing disease symptoms or discomfort and also reported not having difficulties for social relationships.

With respect to smoking and drinking behaviors although none of the participants in the qualitative component ever mentioned doing it, but some of them mentioned that not being involved in smoking and drinking alcohol was a positive influence over their health. In contrast, participants in the quantitative component reported they currently smoke (equal or less than 30%) and drink alcohol (equal or less than 49%). These habits affected mainly to non married working women, with higher proportion of drinking habits. Nevertheless, it can not be concluded that these risk factors are currently making a difference in health status of non married working women, but eventually could lead to it.

One physical activity reported by participants in both components of the study was walking, but this practice is not always perceived as exercise; moderate physical activity is also an extended practice, but a low proportion of women reported practicing intense physical activity; working women are less involved in this practice.

Physical living conditions of women who participated in the quantitative component are very similar to those women participating in the qualitative component, even when selection was not explicitly made for sociodemographic representativeness. For both samples risk for infectious diseases affecting mainly children is low according with data for access to water supply and sewage system. Nevertheless, other factors affecting health such as air cooling systems were not considered in the survey which deserve being considered for semi-arid and arid geographical zones with extremely heat on the summer and medium low temperatures during winter; under that circumstances information about sources of energy for heating systems are not that informative. Survey information about sources of energy for cooking and room in the house served for cooking is indicative of prevailing conditions for urban Sonorans. In general, both components of the study, showed similar conditions deemed not at risk.

Access and quality of the health care delivery system deserves especial attention. Data from the National Survey showed that the majority of the population received attention through the social security system. Their evaluation of satisfaction with the attention provided was mostly unsatisfied when you add

the proportion of neutral and dissatisfaction responses summing up 50% of responses, but the survey did not mentioned the source of dissatisfaction. Although the participants in the qualitative component reported they were concerned about access to preferred doctors such as pediatricians and difficulties with time required to get an appointment and see the doctor. With respect to access to medication, participants in the qualitative component complained about pharmacies in the social security services system run out of medication very often; also the time they spend trying to get it don't compensate the financial cost because of low cost of medication provided, mainly generics. It could be assumed that when surveyed participants mentioned they failed to get the medication prescribed was due to unavailability of the health care system to provide it.

Quality of medication was also a concern for participants in the qualitative component. The basis for such concern has to be documented. Available information about the issue is telling that number of medication is reduced and quantity in stock is also reduced; new generation medication is still more reduced.

Finally, evaluation of satisfaction with health status indicates in general that participants from both components of the study feel satisfied with capacity to function and take care of duties and responsibilities, and having control over important aspects of life. However, the survey data point out to non married working women at higher risk for diseases because of they are less involved in

exercise, and among them there is a major proportion of smokers and drinkers. It could be speculated that more indulgence was a response to the status of being single, and also this was an escape valve for higher level of stress, usually experienced by dual responsibilities of caretaker and provider. Although data are not conclusive about risk for health experienced by the different groups of women, this study call attention to differences detected, and the need of running a more detailed analysis.

Discussion and Implications

Results obtained provided interesting evidence supporting the relevance of the different variables delineated in the model guiding the exploration. Next steps to be followed would focus on in-depth analysis of the various components using a quantitative approach to test the relations modeled only with descriptive purposes in this study. Based on the operational definitions used and the specific elements obtained in the study, this would facilitate the construction of the required quantitative measures.

From the methodological perspective, grouping mothers into three groups based on marital status and working status facilitated finding intra group consistencies and inter-group contrasts. Future studies could focus on groups defined by health status with categories of: chronic debilitating condition, basically defined by its effects of imposing limitations on mobility; chronic non debilitating condition because has no effects on mobility or daily functioning; asymptomatic or not diagnosed condition which cannot be labeled as healthy

status because of the lack of supporting information. The former classification could be very informative due to the effects of debilitating conditions on emotional state and perception of control.

Recommendations

Grouping participants based on characteristics of marital status and occupational status resulted in the identification of concurrences and particular features of the elements under analysis. It was expected the information would facilitate the identification of particular elements, susceptible of being included in health promotion programs targeting the population of interest. Some implications for health promotion programs are:

(1) When deciding about potential factors affecting mothers' motivation to participate, working mothers will be attracted if you target the positive effects on capacity, productivity and satisfactions at work and with family members. For household mothers, the main issue is to enhance relationships with husband and children.

(2) When designing health promotion programs directed to mothers, the preferred strategy would be to stress the importance and positive effects on children's future of promoting self help skills and independent decision making about health issues.

(3) Involving husbands when making decisions about raising children is also important and should be considered, especially with married working mothers that tend to establish more democratic relationships within the family.

(4) Health promotion programs through the media are designed with a typical nuclear family as the model, but this eliminates other families who feel they are not reflected in the advertising. Recognizing different types of families, emphasizing their strengths, resources, and motivations, along with their strategies for problem solving and decision making will lead to more suggestions to develop culturally sensitive health promotion programs.

From a social standpoint, an important finding is the difference in orientations toward health practices by mothers. Working mothers were more positively oriented than non-working mothers, indicating how families are adjusting to changing social and economic circumstances and how mothers find their way to preserve family's health. Families ruled by single mothers are growing constantly, the same as a growing competitive society with independence and autonomous decision making as some basic skills to adapt to continuously changing challenges. This finding provides evidence in order to demystify single mothers as inadequate to raise healthy children and have families capable of attaining the developmental goals of the family members.

Although no conclusive evidence was obtained in relation to risks for disease, the group of non-married working mothers seemed more vulnerable for cardio-vascular disease. In consequence, policies at the work site must be oriented to provide more support for working mothers' access to exercising, and amusement to counteract smoking and drinking habits more prevalent in this group.

Some implications of results for policy changes are related with access to the social health care system, even though the efforts made to improve the quality of the system, the results obtained in this study did not differ of previous findings showed in a similar study implemented 14 years ago (Bronfman, Castro, Zúñiga, Miranda, & Oviedo, 1997). For instance, time expended in the clinics to get the service, possibility to choose the doctor, access to specialist, and availability of medication are common issues in both studies. Other finding derived from the present study is the mistrust people have about the efficacy of prescribed similar and generic medication together with practices of self-medication. Both aspects require attention from public health authorities.

Another policy implication is the urgency of attacking the problem of lack of safe spaces for recreation and exercising. The alternatives available to the families are poor and narrow, in that manner, if the emergent problem of diabetes in adults spreading rapidly to children has to be stopped; important efforts have to be made to this respect.

APPENDICES

APPENDIX A

INTERVIEW GUIDE

INTERVIEW GUIDE

A. Self-perceptions about what is health and well being

1. If you were a healthy woman, how would you describe yourself? (Consider and elicit descriptions of somatic, affective/emotional/attitudinal, behavioral, social and spiritual dimensions).

2. How would you describe your relations with significant others if you were a healthy woman?

- Family (extended, partner, children)
- Friends
- Work (boss, co-workers)

3. What it means being a healthy person for you?

B. Orientations and health promoting practices within the family

4. Mention in order of importance what are the most important factors contributing to your health? Identify which ones are practices and ask if she does it.

5. Mention in order of importance, what are the most important factors contributing to the health of your children? Identify which ones are practices and ask if she does it.

6. Mention in order of importance what are the most important factors contributing to your general well-being? Identify which ones are practices and ask if she does it.

7. Mention in order of importance what are the most important factors contributing to the general well-being of your children. Identify which ones are practices and ask if she does it.

C. Barriers to current and potential health practices

8. What are the problems that you encounter when trying to implement the aforementioned practices contributing to your health?

9. What are the problems that you encounter when trying to implement the aforementioned practices contributing to the health of your children?

10. What are the problems that you encounter when trying to implement the aforementioned practices contributing to your general well being?

11. What are the problems that you encounter when trying to implement the aforementioned practices contributing to the general well being of your children?

D. Health seeking behaviors and barriers associated

D1. For herself

12. How do you know when you are sick?

13. What actions do you take to get your health back? (Elicit descriptions of every action the participant mentions).

14. Which factors/reasons contribute to your decision to seek medical care or treatment?

15. Which factors/reasons prevent you for seeking medical care or treatment for you?

D2. For her children

16. How do you know your children are sick?

17. What lines of action do you follow to heal your children? (Go in depth with descriptions of every action the participant mentions).

18. Which factors/reasons contribute to your decision to seek medical care/treatment for them?

19. Which factors/reasons prevents you for seeking medical care/treatment for them?

E. Resources and strengths supporting health practices

In the context of family efforts to promote health:

20. How do you describe the relations between you and your children?

21. How do you describe the relations between your espouse/significant other/partner and your children?

22. Who makes the decisions about how raise and educate your children?

23. From your perspective, which are your obligations and responsibilities as a mother?

24. How do you feel about it?

25. From your perspective, which are the obligations and responsibilities of your espouse/significant other/partner as a father?

26. How do you feel about it?

27. What are the resources your family has to deal with illness and adverse situations?

28. What are the weaknesses or problems your family encounters when someone is ill and in adverse situations?

29. Which are the resources that your family has for promoting the health of the family members?

30. What are the weaknesses or problems your family encounters for promoting the health of the family members?

GUÍA DE ENTREVISTA

A. Auto-percepción de salud y bienestar

3. Si Usted fuera una mujer saludable, ¿cómo se describiría? (Considerar y elicitar descripciones de las dimensiones somática, afectiva/emocional/actitudinal, conductual, social y espiritual)
4. ¿Cómo describiría sus relaciones con las personas importantes para Usted si fuera una mujer saludable?

- Familiares (familia extendida, con su pareja, hijos)
- Amigos
- Trabajo (jefes, compañeros)

3. ¿Qué significa para Usted ser una persona saludable?

B. Orientaciones y prácticas de promoción de la salud en la familia

4. Mencione en orden de importancia, ¿cuales son los factores más importantes que contribuyen a su salud? Identifique cuales de ellos son prácticas y pregunte si las lleva a cabo.
5. Mencione en orden de importancia, ¿cuales son los factores más importantes que contribuyen a la salud de sus hijos? Identifique cuales de ellos son prácticas y pregunte si las lleva a cabo.
6. Mencione en orden de importancia, ¿cuales son los factores mas importantes que contribuyen a su bienestar general? Identifique cuales de ellos son prácticas y pregunte si las lleva a cabo.

7. Mencione en orden de importancia cuales son los factores mas importantes que contribuyen al bienestar general de sus hijos. Identifique cuales de ellos son prácticas y pregunte si las lleva a cabo.

C. Barreras para las prácticas de salud actuales y potenciales

8. ¿Qué problemas encuentra Usted cuando trata de llevar a cabo las prácticas ya mencionadas que contribuyen a su salud?
9. ¿Qué problemas encuentra Usted cuando trata de llevar a cabo las prácticas ya mencionadas que contribuyen a la salud de sus hijos?
10. ¿Qué problemas encuentra Usted cuando trata de llevar a cabo las prácticas ya mencionadas que contribuyen a su bienestar general?
11. ¿Qué problemas encuentra Usted cuando trata de llevar a cabo las prácticas ya mencionadas que contribuyen al bienestar general de sus hijos?

D. Comportamientos de búsqueda de salud y barreras asociadas

D1. Para ella misma

12. ¿Cómo reconoce Usted que esta enferma?
13. ¿Qué acciones toma para sanar o recuperar la salud? (Elicite descripciones de cada acción que mencione la participante).
14. ¿Qué factores/razones contribuyen a tomar la decisión de buscar cuidado médico o tratamiento?
15. ¿Qué factores le impiden buscar cuidado medico o tratamiento para Usted?

D2. Para sus hijos

16. ¿Cómo reconoce Usted que sus hijos están enfermos?
17. ¿Qué acciones toma para que sus hijos sanen o recuperen la salud? (Elicite descripciones de cada acción que mencione la participante).
18. ¿Qué factores/razones contribuyen a tomar la decisión de buscar tratamiento médico para sus hijos?
19. ¿Qué factores/razones le impiden buscar cuidado médico o tratamiento para sus hijos?

E. Recursos y fortalezas apoyando las prácticas de salud

En el contexto de los esfuerzos familiares para promover la salud:

20. ¿Cómo describe la relación entre Usted y sus hijos?
21. ¿Cómo describe la relación entre su esposo/pareja y sus hijos?
22. ¿Quién toma las decisiones acerca de como criar y educar a sus hijos?
23. Según su punto de vista, ¿cuales son sus obligaciones y responsabilidades como madre?
24. ¿Qué piensa acerca de ello?
25. Según su punto de vista, ¿cuales son las obligaciones y responsabilidades de su esposo/pareja como padre?
26. ¿Qué piensa acerca de ello?
27. ¿Cuáles son los recursos con que cuenta su familia para hacer frente a enfermedades y situaciones adversas?

28. ¿Cuáles son las debilidades o problemas que su familia encuentra cuando alguien esta enfermo y en situaciones adversas?
29. ¿Cuáles son los recursos con los que cuenta su familia para promover la salud de sus miembros?
30. ¿Cuáles son las debilidades o los problemas que enfrenta su familia para promover la salud de sus miembros?

APPENDIX B

SOCIO-ECONOMIC QUESTIONNAIRE

SOCIODEMOGRAPHICS

1. What is your date of birth?____/____/____.
Month / Day/ Year

2. Currently you are:
   1. Married
   2. Living with a significant other/partner
   3. Single
   4. Separated
   5. Divorced
   6. Widow

3a. If (in category 3 to 6) for how long (years/months): _____.

3b. If (in category 1 or 2) for how long (years/months): _____.

4. For how long have you been living in your community/neighborhood (years/months): _____.

5. The last school year you have completed was: _____grade.

6. Who is in charge/head of this family? (If different of respondent, define relation with head of the family):

6a. Gender: male / female

6b. What is his/her date of birth? ____/____/____.
Month Day Year

6c. The last school year he/she has completed was: _____grade.

6d. Is he/she working in the community/city/neighborhood? Yes ____ No.____.

6e. What is his/her occupation? _____.

6f. During the last year, for how many months did he/she worked? _____months.

7. Are there other family members contributing with their salary towards the family expenses?
Yes ____ No ____.

8. List the family members living on a regular basis at this house. Start with the youngest.

(For minors 4 to 16 ask if going to school, if not ask reason; for 17 to 65 ask if they are working, if yes ask if they are contributing with the family expenses)

Relation	Date of birth	Attends school (Yes/No)	Working (Yes/No)	Contributes to expenses (Yes/No)
_____	___/___/____ Month/day/year	_____	_____	_____
_____	___/___/____ Month/day/year	_____	_____	_____
_____	___/___/____ Month/day/year	_____	_____	_____
_____	___/___/____ Month/day/year	_____	_____	_____
_____	___/___/____ Month/day/year	_____	_____	_____
_____	___/___/____ Month/day/year	_____	_____	_____
_____	___/___/____ Month/day/year	_____	_____	_____

8. Do you have health insurance? Yes ____ No_____.

8ª. If yes, please mention the institution covering your health care.

IMSS____ ISSSTE____ SEDENA____ PEMEX____ PRIVATE____ SECTOR SALUD____

9. Does your family have health insurance? Yes ____ No ____

9a. If yes, please mention the institution covering your health care.

IMSS____ ISSSTE____ SEDENA____ PEMEX____ PRIVATE____ SECTOR SALUD____

If not (to 8 or 9), what do you do if any family member gets sick?

DATOS SOCIODEMOGRAFICOS

1. ¿Cuál es su fecha de nacimiento?____/____/____.
Mes /Día / Año

2. Actualmente usted esta:
   1. Casado(a)
   2. Viviendo en pareja
   3. Soltero(a)
   4. Separado(a)
   5. Divorciado(a)
   6. Viudo(a)

3a. Si (en las categorías 3 a 6) ¿por cuanto tiempo (años/meses): _____.

3b. Si (en las categorías 1 o 2) ¿por cuanto tiempo (años/meses): _____.

4. ¿Por cuánto tiempo ha estado Usted viviendo en su comunidad/barrios/colonia (años/meses): _____.

5. ¿Hasta qué grado de escuela completó: _____grado.

6. ¿Quién es el jefe de familia? (Si es alguien diferente del entrevistado, definir su relación con el jefe):

6a. Género: masculino/femenino

6b. ¿Cuál es su fecha de nacimiento?: ____/____/____.
Mes / Día / Año

6c. ¿Hasta qué grado de escuela completó: _____grado.

6d. ¿Se encuentra trabajando actualmente en la comunidad/ciudad/poblado? Sí ____ No.____.

6e. ¿Cuál es su trabajo/ocupación? _____.

6f. Durante el último año, ¿por cuántos meses estuvo trabajando? ____meses.

7. ¿Algún otro miembro de la familia contribuye con su salario para los gastos de la familia?
Sí __ No ____.

8. Mencione a los miembros de la familia que viven regularmente en esta casa. Comience por los más jóvenes.

(Para los menores de edad de 4 a 16 años pregunte si asisten a la escuela, si no es así pregunte por que razón. Para los miembros de 17 a 65 años pregunte si se encuentran trabajando actualmente, si la respuesta es afirmativa, pregunte si contribuyen al gasto familiar)

Parentesco	Fecha de nac.	Asiste a la escuela (Si/No)	Trabaja (Si/No)	Contribuye al gasto (Si/No)
_____	___/___/____ Mes/Día /Año	_____	_____	_____
_____	___/___/____ Mes/Día /Año	_____	_____	_____
_____	___/___/____ Mes/Día /Año	_____	_____	_____
_____	___/___/____ Mes/Día /Año	_____	_____	_____
_____	___/___/____ Mes/Día /Año	_____	_____	_____
_____	___/___/____ Mes/Día /Año	_____	_____	_____
_____	___/___/____ Mes/Día /Año	_____	_____	_____

8. ¿Tiene Usted servicio médico? Si ____ No ____.

8ª. Si la respuesta es afirmativa, por favor mencione la institución que lo atiende.
IMSS____ ISSSTE____ SEDENA____ PEMEX____ PRIVATE____ SECTOR SALUD____

9. ¿Tiene su familia servicio médico? Si ____ No ____.

9ª. Si la respuesta es afirmativa, por favor mencione la institución que los atiende.
IMSS____ ISSSTE____ SEDENA____ PEMEX____ PRIVATE____ SECTOR SALUD____

Si la respuesta es negativa (a 8 o 9), ¿qué es lo que hace cuando algún miembro de la familia se enferma?

APPENDIX C

HOUSING CONDITIONS QUESTIONNAIRE

HOUSING CONDITIONS

Just observe the housing conditions. Try to observe the exteriors before the interview without interfering with the ongoing activities of the family members. If the interview is conducted outdoors, ask only for the information you can't observe or infer from the conversation with the interviewee.

Family property: ____ Leasing/rent: ____.
Number of rooms_____ (include kitchen if apart; do not include bathroom).
Is there a room exclusive for kitchen? Yes____ No_____.
Is the kitchen located outside the house? Yes_____ No_____.
Is there a room exclusive for bathroom? Yes_____ No_____.

Utilities:
Tap water: Inside the house_____ Outside the house.
Drainage: Inside the house_____ Outside the house.
Electricity:
Proper installation inside the property: _____.
Improper installation coming from external wire lines _____.

Housing materials:
Floor materials inside the house (if different materials estimate percentage of surface covered):
Dirt____ Stone/cement____ Wood____ Tile____ Carpet____.
Roofing materials over the house (if different materials estimate percentage of surface covered):
Cement/solid____ Wood____ Palm/clay____ Metal sheet____ Fiberboard____ Tile____
Walls materials inside/outside the house (if different materials estimate percentage of surface covered):
Cement/solid____ Adobe____Wood____ Palm/clay____ Metal sheet____ Fiberboard____ Tile____

Appliances (currently in use/functioning):
Stove: Gas____ Wood____ Radio:____TV:____Video player:____Phone:____Refrigerator:____
Blender:____Washer:____Sewing machine:____

CONDICIONES DE LA VIVIENDA

Observe las condiciones de la vivienda. De ser posible observe los exteriores antes de la entrevista, siempre y cuando esto no interfiera con las actividades de los miembros de la familia. Si la entrevista transcurre en el exterior de la vivienda, pregunte por aquella información que no puede observar o inferir a través de la entrevista.

La vivienda es propia____ La vivienda es rentada ____.
Número de habitaciones _____ (incluir la cocina si se localiza aparte; no incluir el baño).
¿La cocina se localiza en un cuarto aparte? Sí ____ No ____.
¿La cocina se localiza fuera de la casa? Sí ____ No ____.
¿El baño se localiza en un cuarto aparte? Sí ____ No ____.

Servicios:
Agua potable: En el interior de la casa ____ Fuera de la casa ____.
Drenaje: En el interior de la casa ____ Fuera de la casa ____.
Energía eléctrica:
Instalación adecuada en el interior de la propiedad ____.
Instalación inadecuada tendida desde las líneas exteriores ____.

Materiales de la vivienda:
Materiales en el piso interior de la vivienda (si existen diferentes materiales, estimar el porcentaje cubierto por cada tipo de superficie):
Tierra ____ Piedra/cemento ____ Madera ____ Mozaico ____ Alfombra ____.

Materiales en el techo de la vivienda (si existen diferentes materiales, estimar el porcentaje cubierto por cada tipo de superficie):
Cemento/vaciado ____ Madera ____ Palma/lodo ____ Lámina metálica ____
Lámina fibra de vidrio ____ Teja ____.

Materiales en paredes interiores y exteriores de la vivienda (si existen diferentes materiales, estimar el porcentaje cubierto por cada tipo de superficie):
Cemento/vaciado ____ Adobe ____ Madera ____ Palma/lodo ____ Lámina metálica ____ Lámina fibra de vidrio ____ Teja ____.

Aparatos y utensilios (en funcionamiento):
Estufa: gas ____ leña ____ Radio:____TV:____Reproductor de video:____
Telefono:____ Refrigerador:____
Licuadora:____ Lavadora:____ Máquina de coser:____.

APPENDIX D

LIST OF NODES AND OPERATIONAL DEFINITIONS

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Project: Family health promoting practices User: Administrator Date: 9/10/2006 - 9:50:22 PM
NODE LISTING

Nodes in Set: All Nodes
Created: 06/12/2006 - 11:50:05 AM
Modified: 08/12/2006 – 10:55:05 AM
Number of Nodes: 48

FREE NODES

1 Beliefs about chronic disease
Description:
Meanings attributed to what a chronic disease is and its impact on survival.

2 Beliefs about drugs
Description:
Opinions and experiences with original, similar and generic drugs

3 Culturally determined gender position
Description:
Comments indicating the subordinate role of women's opinions and her constrained value as a source of advice or authority in health issues from the men's perspective.

4 Stoicism
Description:
Philosophy of life characterized by sacrifice, postponing own needs to other's needs; also keeping in secret pain and discomfort without letting to interfere with every day chores or obligations.

5 Traditional gender role
Description:
Orientations or beliefs about the role of obedience with the masculine partner in the determination of health

6 Work as healthy
Description:
Involving working or productive activities a way to avoid thinking about diseases or symptoms, then leading to a more positive state

TREE AND CHILD NODES

7 (1) /Self perceptions about health

Description:

Client's descriptions of being healthy or health status, including the physical, emotional, social and spiritual dimensions.

8 (1 .1) /Self perceptions about health/physical dimension

Description:

Descriptions of somatic aspects delineating health or health status, including not being sick as an indicator of being healthy

9 (1. 2) /Self perceptions about health/Emotional dimension

Description:

Descriptions of emotions featuring health or health status.

10 (1. 3) /Self perceptions about health/Social dimension

Description:

Descriptions of social aspects or interactions featuring health or health status.

11 (1. 4) /Self perceptions about health/Spiritual dimension

Description:

Descriptions of spiritual aspects featuring health or health status.

12 (2) /Family practices for health promotion

Description:

Set of behaviors, techniques, or activities used to sustain self-care for health or wellness in the context of family routines...to alter lifestyle choices and to develop effective ways of dealing with health situations so that family goals and aspirations can be achieved.

13 (2. 1) /Family practices for health promotion/Adjusting practices to environmental conditions

Description:

Practices developed by family members in order to adjust to environmental conditions (weather, water availability, facilities)

14 (2.2) /Family practices for health promotion/Adjusting practices to available resources

Description:

Practices developed by family members in order to adjust to resources available (time, work routines-schedules, income)

15 (2. 3) /Family practices for health promotion/Healthy feeding practices

Description:

Selecting and preparing healthy foods; avoiding unhealthy foods (fats and non-complex carbohydrates), or unhealthy habits such as fast food or eating between meals.

16 (2 4) /Family practices for health promotion/Preventive practices

Description:

Including going to the doctor for check ups, screening tests, vaccinations, taking vitamins or supplements. Also, preventing accident's behaviors or protecting from accidents.

17 (2 5) /Family practices for health promotion/Adjusting practices to family preferences

Description:

Adjusting practices such as preparing foods, family routines to members' preferences or needs.

18 (2. 6) /Family practices for health promotion/Hygiene practices

Description:

Including washing hands, taking a shower, laundry, mouth washing.

19 (2. 7) /Family practices for health promotion/Exercise

Description:

Activities directed to exercise

20 (2. 8) /Family practices for health promotion/Avoiding unhealthy habits

Description:

Such as drinking alcohol, drinking coffee or soda; smoking cigarettes

21 (2. 9) /Family practices for health promotion/Constructive discipline

Description:

Using non punitive strategies for disciplinary purposes, or when establishing healthy habits or routines.

22 (3) /Orientations toward health practices

Description:

Practices of health promotion have two possible orientations: (1) a negative orientation based on the idea of prevention as avoiding disease or keeping away the individual of getting ill; (2) a positive orientation for health promotion through

the implementation of educational approaches for skills acquisition relating to making decisions and taking responsibility of health matters.

23 (3. 1) /Orientations toward health practices/Negative orientation

Description:

Practices of health promotion with a negative orientation based on the idea of prevention as avoiding disease or keeping away the individual of getting ill.

24 (3. 2) /Orientations toward health practices/Positive orientation

Description:

Practices of health promotion with a positive orientation for health promotion through the implementation of educational approaches for skills acquisition relating to making decisions and taking responsibility of health matters.

25 (4) /Barriers to health practices

Description:

The set of events, internal and external, that affect the family and its members preventing them of implementing health promotion practices.

26 (4. 1) /Barriers to health practices/Relational barriers

Description:

The set of internal-relational events or characteristics affecting the family and its members preventing them of implementing health promotion practices. It could be included beliefs, relational conflicts, and unhealthy habits socioculturally determined.

27 (4. 2) /Barriers to health practices/Economic barriers

Description:

The set of external-environmental events or characteristics derived from economic limitations (lack of money to buy food, clothes, paying bills) affecting the family and its members preventing them of implementing health promotion practices. This would be provoked by low income, lack of job.

28 (4. 3) /Barriers to health practices/Environmental barriers

Description:

The set of external-environmental events or characteristics affecting the family and its members preventing them of implementing health promotion practices (time, weather, lack of appropriate space; competing activities). Also includes limited access to health-preventive services

29 (4. 4) /Barriers to health practices/Physical barriers

Description:

Physical impediments or injuries preventing the individual to involve in health promotion practices

30 (5) /Health seeking behaviors for mothers

Description:

Set of behaviors exerted by mothers to recover their selves from illness. It includes home remedies, over the counter medications, visiting the doctor, taking medications and following physician's instructions.

31 (6) /Health seeking behaviors for children

Description:

Set of behaviors exerted by mothers to recover children from illness. It includes home remedies, over the counter medications, visiting the doctor, taking medications and following physician's instructions.

32 (7) /Resources supporting health practice

Description:

External resources of the family members supporting health practices (Ford-Gilboe, 2000); including income, a stable employment, social networks, socio-economic status, education, and access to health services, among others.

33 (8) /Strengths supporting health practice

Description:

Family relational or internal characteristics supporting health practices (Ford-Gilboe, 2000); including perception of control, coping strategies, social support, and parenting alliance, among others (positive relationships among family members)

34 (9) /Resources when dealing with disease

Description:

External resources of the family members supporting the efforts to deal with disease and adverse situations; including income, a stable employment, social networks, socio-economic status, savings, education, and access to health services, among others.

35 (10) /Strengths when dealing with disease

Description:

Family relational or internal characteristics supporting the efforts to deal with disease or other adverse situations; including perception of control, coping strategies, social support, and parenting alliance, positive relationships among family members, among others.

36 (11) /Health as a family priority

Description:

Priority of health in parental responsibilities. Main habits to promote with her children.

37 (12) /Barriers to health seek behavior mother

Description:

Events, circumstances, internal or external, affecting adversely or constraining health seeking behaviors for mothers.

38 (12. 1) /Barriers to health seek behavior mother/Insatisfaction with social health se

Description:

Negatives experiences with social health care services. This could limit alternatives to health seeking behaviors becoming an important barrier.

39 (13) /Sources factors affecting health

Description:

Events or external conditions affecting positively or negatively the health status. Use this information to support barriers and resources.

40 (13. 1) /Sources factors affecting health/Positive affecting health

Description:

Events or external conditions affecting positively health status

41 (13. 2) /Sources factors affecting health/Negative affecting health

Description:

Events or external conditions affecting negatively health status

42 (14) /Demands for authorities

Description:

What mothers would like authorities to take care of to improve the health status of families.

43 (15) /Barriers to health seek behavior children

Description:

Events, circumstances affecting adversely or constraining health seeking behaviors for children.

44 (15. 1) /Barriers to health seek behavior children/Insatisfaction with social health services

Description:

Negatives experiences with social health care services. This could limit alternatives to health seeking behaviors becoming an important barrier.

45 (16) /Satisfaction with health status

Description:

Level of satisfaction with current health status of family members.

46 (17) /Health versus well being

Description:

Ideas reflecting differences or similarities between health and well being

47 (18) /Role burdens

Description:

Self perception about the burden associated with individual roles: mother, housekeeper, worker, wife, daughter and sister.

48 (19) /Needs to improve health status

Description:

What mothers identify as potential targets in order to improve the health status of the family members?

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