AWARENESS OF CHRONIC DISEASES IN THE RAPIDLY DEVELOPING COMMUNITY OF CHON BURI, THAILAND

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Abstract. This study investigated the contributing behaviors to chronic diseases in rapidly developing communities. An exploratory cross-sectional design and focus group discussions were employed for data collection from March, 2003 - April, 2005. Five representative communities located in the rapidly growing industrial region of Chon Buri, Thailand were included. Four hundred twenty-two respondents stratified into various community groups were interviewed. The interview data were analyzed and followed-up by focus group discussions in each community with representative community members. The findings indicate diabetes and hypertension were frequent complaints. Older age groups more often reported chronic disease. Most people, especially those who had no chronic diseases (66.2%), were unconcerned about eating healthy food. These people were little concerned about annual routine health checkups and self-care. Most people had hurried lifestyles with limited time, were stressed, were unconcerned about health or quality of life, and had little information regarding chronic diseases. Dietary habits, age groups, and annual routine health checkups were significantly related to self-reported chronic diseases (p=0.005, 0.002, and 0.002, respectively). Based on our findings, we recommend the government provide education regarding a healthy life style to prevent chronic diseases. Diet trends should be monitored and appropriate strategies should be developed at the community level.

INTRODUCTION

Chronic diseases are an emerging health problem throughout the world today. Increasing incidences and prevalence of chronic diseases, especially cancer, diabetes, heart disease, obesity and hypertension, are evident in many countries (Yach *et al,* 2004; WHO, 2006). Major factors identified with the differing rates are self-care practices, especially dietary habits and physical activity levels. Poor diet and unhealthy eating were found in many countries (Winkleby and Cubbin, 2004; CDC, 2003, 2005; Roberts and Barnard, 2005; WHO, 2006). However, there are many other factors contributing to chronic diseases including demographic characteristics, environment, alcohol drinking, tobacco use, health care accessibility, health promotion and prevention practices, the health care system and policies (Hagdrup *et al,* 1997; Phonrat *et al*, 1997; CDC, 2003; Mokdad *et al,* 2003; Brechon *et al*, 2005; Ratanasuwan *et al*, 2005; Winkleby and Cubbin, 2004; WHO, 2006). There are currently higher mortality rates for chronic diseases in developing countries than developed ones. The reality is that 80% of chronic disease deaths now occur in low and middle income countries where they affect men and women almost equally (WHO, 2006).

In developing countries with rapid socioeconomic growth, such as Thailand, there are many changes in the way people live, which include work, relaxation, family and housing, and food and eating habits which lead to

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chronic diseases (Wibulpolprasert, 2005). Therefore, it is important to study behavior which contributes to chronic disease particularly in communities where lifestyle change is occurring rapidly.

MATERIALS AND METHODS

Design and study area

An exploratory cross-sectional design with focus group discussions were used to carry out this study after receiving approval for the study by the institutional review board from the Instituto de Ciências Biomédicas Abel Salazar (ICBAS) of the University of Porto, Portugal, and was reviewed and approved by the Burapha University Ethics Committee. The research was conducted in the rapidly growing communities of Chon Buri Province, Thailand. Chon Buri Province is located in the industrial development region of Thailand, on the eastern coast of the Gulf of Thailand, approximately one hour drive to the southeast of the capital, Bangkok. Chon Buri Province includes the tourist city of Pattaya, an international seaport, many industrial estates and various agricultural projects. Such development has led to increased migration, creation of different socioeconomic groups, a constantly evolving multicultural heritage and a congested living environment.

Study population

Five sub-district administration organizations, from each levels of sub-district administration level 1 to 5, located in 5 out of the 11 different districts of Chon Buri Province were included in the study. Consultutions were made with experts in various professions to find the communities that best represented rapidly growing communities. The populations of interest were the various groups of community members. In order to assure a representative data set, stratified sampling was used to select representatives from community leaders, local and government personnel in communities, health volunteers, chairs and members of various assemblies and villagers in each village. Sample size was calculated by a simplified formula for proportions at 95% confidence level.

Instruments

The interview questionnaire was created and developed by reviewing related literature. The researchers then made, analyzed and evaluated the questions and consulted with experts in communicable and non-communicable disease control, health promotion and health prevention, community health development, questionnaire construction and research methodology. The questions were pre-tested in different communities with similar backgrounds to the study communities. Revisions were made prior to data collection by means of interview surveys in the study communities. The questionnaire was comprised of 2 parts. Part one included demographic data and personal characteristics of the respondent. Part two concerned personal awareness regarding health and chronic diseases. The reliability of the interview survey questionnaire, the Cronbach's alpha, was 0.72. The semi-structured interview guideline for focus group discussions was created and developed after the interview survey.

Data collection and analysis

A signed consent form was obtained from the respondents who agreed to participate in this study. All the respondents were advised of their rights to withdraw from the study at any time without prejudice. The interview survey and observations were performed at the home of each respondent from March through September, 2003. There were 422 respondents in this study. The interview data were analyzed and followed up by means of focus group discussions with representatives of the community to clarify factors and strategies for solving problems of the community. Focus group discussions and observations in the

communities were conducted in each sub-district administration organization unit during August-September 2004 and March-April 2005. Each focus group had between 11 and 16 participants; the discussion lasting approximately 2-3 hours. Descriptive statistics (frequencies, percentages, mean and standard deviation) were used to describe the variables. The chi-square test (for categorical variables) was used to look for differences in the characteristics of self-reported chronic disease. Content analysis was used for focus group discussion data analysis. Additionally, the observation data and pictures were analyzed in order to verify some information.

RESULTS

Demographic and personal characteristics

Respondents were 20-80 years of age with an average age of 44.4 (SD=11.6). There were more women respondents (54.5%). More than half the respondents had a primary education (52.8%). Over two-thirds were married (69.7%). Most common occupations were: working in a small shop in the community, being factory employee, working in agriculture or in government service (26.3, 23.9, 22.7 and 21.6%, respectively). Over one-fifth of respondents (21.1%) indicated insufficient family income. The majority of respondents were locals (62.3%) and 37.7% were migrants to the area. Over one-fourth of respondents (26.3%) reported current chronic diseases.

Differences in self-reported chronic diseases

The personal characteristics and health behavior differences in self-report chronic diseases are shown in Table 1. The association between personal characteristics and health behavior in the cases of no self-reported chronic diseases and self-reported chronic diseases were assessed. The older age groups reported significantly more chronic diseases (p=0.002). Dietary habits were significantly different between those with and without self reported chronic diseases (p=0.005). Most respondents were unconcerned about eating healthy food. Lack of concern for healthy eating was a common response for people who had no chronic diseases (66.2%). Most respondents had physical activity only sometimes. Respondents with self-reported chronic diseases tended to have more frequent physical activity and more concern regarding health self-care practices than respondents without self-reported chronic diseases. An annual routine health checkup was significantly associated with self-reported chronic disease (p<0.002). The respondents who self-reported chronic disease were more likely to schedule routine health checks (34.2%), whereas those with no self-reported chronic diseases health checks when they were ill (39.5%).

Chronic disease problems and related factors

The chronic diseases mentioned most often during the focus group discussions were diabetes and hypertension. Diabetes and hypertension were perceived as increasing in every community. Many conditions were proposed as the causes of chronic diseases in the study communities: 1) social-economic disruption of normal life, for example, people migrating to work in industry resulting in lifestyle changes, having a hurried life and limited time, needing to earn more money, and having a stressful life; 2) lack of concern for health including food habits, home environment, physical activity, quality of life, new knowledge and information related to health, health promotion and self-care practices, long periods of illness, and health practices based on supernatural beliefs, 3) few motivational factors in terms of poor law enforcement, poorly run health campaigns, and little community involvement.

A summary of the causes of chronic diseases are found in Fig 1.

Opinions to solve chronic disease problems

A summary of the suggestions to solve

Table 1
Personal characteristics and health behavior regarding self-reported chronic disease in a rapidly developing community.

Personal characteristics and health behavior	Self-reported chronic disease (n=422)		p-value
	None n = 311 (73.7%)	Yes n = 111 (26.3%)	
Age (year)			
<35	72 (23.2)	18 (16.2)	0.002[a]
35-44	97 (31.2)	25 (22.5)	
45-54	94 (30.2)	33 (29.7)	
>54	48 (15.4)	35 (31.6)	
Gender			
Male	150 (48.2)	42 (37.8)	0.059
Female	161 (51.8)	69 (62.2)	
Education level			
None formal	5 (1.6)	2 (1.8)	0.469
Primary school	162 (52.1)	61 (55.0)	
High school/Vocational	87 (28.0)	23 (20.7)	
Bachelor degree and higher	57 (18.3)	25 (22.5)	
Marital status			
Single	57 (18.3)	20 (18.0)	0.161
Couple	222 (71.4)	72 (64.9)	
Widow/Divorce/Separated	32 (10.3)	19 (17.1)	
Occupation			
Government officer	67 (21.5)	24 (21.6)	0.182
Work in small shop in community	82 (26.4)	29 (26.2)	
Factory employee	78 (25.1)	23 (20.7)	
Agriculturist	72 (23.1)	24 (21.6)	
Other	12 (3.9)	11 (9.9)	
Family income			
Sufficient to have savings	92 (29.6)	35 (31.5)	0.817
Sufficient	156 (50.2)	50 (45.1)	
Not sufficient, no debt	15 (4.8)	6 (5.4)	
Not sufficient with debt	48 (15.4)	20 (18.0)	
Dietary habits			
Unconcern regarding healthy food	206 (66.2)	57 (51.4)	0.005[a]
Concern regarding healthy food	105 (33.8)	54 (48.6)	
Frequency of physical activity			
No physical activity	19 (6.1)	1 (0.9)	0.174
Sometimes	165 (53.1)	61 (55.0)	
Often	84 (27.0)	32 (28.8)	
Every day	43 (13.8)	17 (15.3)	
Concern regarding health self-care practices[b]			
Low	17 (5.5)	5 (4.5)	0.666
Moderate	145 (46.6)	46 (41.5)	
High	93 (29.9)	35 (31.5)	
Highest	56 (18.0)	25 (22.5)	
Annual routine health checkup			
Never	52 (16.7)	18 (16.2)	0.002[a]
When becomes ill	123 (39.6)	31 (27.9)	
When told by a physician	27 (8.7)	24 (21.6)	
Every year	109 (35.0)	38 (34.3)	

[a] Chi-square test is significant at $\alpha = 0.05$ level
[b] "Concern regarding health self-care practices" is a summary measure of personal health promotion, prevention and hygiene practices.

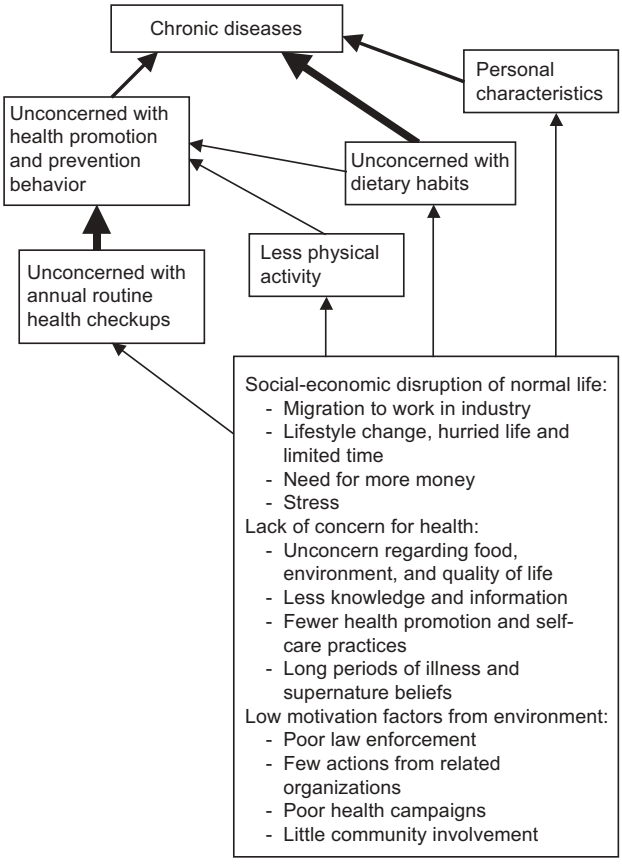

Fig 1–A summary of related causes of chronic diseases in the study area.

these chronic diseases discussed in focus groups included: 1) identify problems, causes of problems and public education of specific target groups in the community; 2) obtain input from people in risk groups and the youth; 3) implement proactive interventions in target groups instead of waiting for conditions to appear; 4) motivate and encourage physical activity within the community; 5) develop population involvement, collaboration and self-care; 6) enforce laws, social, and community rules, to help control risks; 7) train leaders in charge of communities, such as village health volunteers, and youth; 8) use empowerment and networking within communities and between communities to impact chronic diseases.

DISCUSSION

Chronic diseases are reported to be related to demographic characteristics, sush as age and gender. In this study of the differences between self-reporting of having or not having chronic diseases, we found age groups were significantly related to self-reported chronic diseases, found mostly in older age groups similar to a report by the WHO (2006). The longer a person lives, the more likely they will to be develop chronic diseases, especially if they do not take care of their health. In this study, diabetes and hypertension were frequent complaints, similar to the findings of other studies (Brechon *et al*, 2005; Wibulpolprasert, 2005). Dietary habits were significantly different in those with self-reported chronic diseases compared to those without self-reported diseases, similar to other studies (Winkleby and Cubbin, 2004; CDC, 2005; Roberts and Barnard, 2005; WHO, 2006). Behaviors, such as frequency of physical activity and self-care practices, in this study were not significantly related to self-reported chronic diseases, in contrast to that found in other studies (CDC, 2003, 2005; Mokdad *et al,* 2003; Roberts and Barnard, 2005; WHO, 2006). An annual routine health checkup was important for the people who self-reported not having chronic diseases. An annual routine health checkup needs to be implemented to detect problems earlier and treat them before they develop into complicated chronic health conditions (Hagdrup *et al,* 1997).

Our findings reveal in rapidly growing communities people are unconcerned regarding their dietary habits, which is an important factor related to chronic disease (Winkleby and Cubbin, 2004; CDC, 2005; Roberts and Barnard, 2005; WHO, 2006). Respondents tended to be less physically active and have fewer health self-care practices. Based on focus group discussions, it was found that people had hurried lifestyles with the need to earn more money, had limited time, were under stress, had less concern about selection of food, and were

unconcerned about health promotion, health prevention and quality of life. Results from focus groups revealed many strategies to help solve chronic diseases in the community. The strategies were related to health promotion and prevention behaviors which encourage people to be concerned with and practice healthy lifestyles, as reported in other studies (Hagdrup *et al,* 1997; Ratanasuwan *et al*, 2005). Leadership training, community empowerment, and chronic disease prevention were desired by most people in the groups.

Chronic diseases affect people in rapidly growing communities in developing countries especially in older age groups. Important conditions which affect chronic diseases include dietary habits and lack of concern regarding self care. The people wanted the government to provide a policy for improving the knowledge and skill of community members regarding prevention and control of chronic diseases. Based on these findings, we recommend the government provide policies regarding diet, annual routine health checkups, health promotion and prevention behavior. People in the community would benefit if there is a strategy to create strategic enforcement, strengthening community participation and networks to share more information related to illness prevention strategies.

ACKNOWLEDGEMENTS

This study was supported by the Instituto de Ciências Biomédicas Abel Salazar (ICBAS), University of Porto, Portugal; and Faculty of Public Health, Burapha University, Thailand. The authors of the study would like to thank to Dr Ronald Markwardt, and Dr Pissamai Homchampa for their constructive comments and excellent help in preparing the manuscript in English.

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