A Preliminary Study of a Health-promoting Lifestyle Among Southeast Asian Women in Taiwan

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The purpose of this study was to determine and understand the predicting factors of a health-promoting lifestyle (HPL) in Southeast Asian women in Taiwan. One hundred and five Southeast Asian women in Tainan were recruited. Face-to-face interviews with structured questionnaires were used for data collection. The findings showed that, among the six dimensions of HPL, subjects scored highest in self-actualization and lowest in health responsibility. Subjects who could read and write Chinese had a more positive HPL; stepwise regression analysis revealed that the ability to read Chinese could explain 26.2% of the total variance of HPL in Southeast Asian women. The results of this study can help health care professionals understand the HPL and to design appropriate health-promoting educational programs to improve the well-being and overall quality of life of Southeast Asian women in Taiwan.

Key Words: Southeast Asian women, perceived health, health-promoting lifestyle (Kaohsiung J Med Sci 2005;21:114–20)

Health promotion has become a popular issue in the fields of medicine, public health, and nursing [1,2]. As a result of the "Health for All" appeal by the World Health Organization, many countries have adjusted their medical health care systems to include health promotion in addition to treating disease. Such countries have cited health promotion as an important issue [3]. Health promotion was also suggested as an important way to reach the goal of the "Healthy People 2010" program [4]. Travis pointed out that a health-promoting lifestyle (HPL) should include factors such as self-responsibility, diet, physical perception, and stress management [5]. Walker et al defined HPL as multidimensional and spontaneous behaviors and the perception of an individual regarding maintaining or improving health quality, self-actualization, and self-satisfaction. It consists of self-actualization, health responsibility, exercise, nutrition, interpersonal support, and stress management [6]. Easom stressed that health promotion should go beyond disease prevention [7]. Tapp and Goldental suggested that a healthy lifestyle should include both disease prevention and health promotion [8]. Previous studies have reported that the factors affecting health-promoting behaviors include age, race, education, socioeconomic status, region, perceived health, self-esteem, and cultural adaptation [9-11]. Lifestyles can also influence health and well-being [1]. An HPL may decrease the possibility of premature death and the risk of disease [12] and, thereby, improve overall health [13]. Under pressure from the rising cost of National Health Insurance in Taiwan, health promotion must become the government's policy to reduce medical costs in the near future [14].

According to Taiwan's National Statistics, of the 68,159 foreign female spouses who obtained valid permits before the end of June 2003, 64,671 (94.88%) came from Southeast Asia; they were primarily from Vietnam (42,731, 62.7%) and Indonesia (10,426, 15.3%) [15]. It is estimated that the number

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of Southeast Asian spouses of Taiwanese males will continue to grow. The rapid increase in the number of foreign brides has greatly transformed Taiwan's social and demographic structures. As a result of diverse cultures influencing Taiwanese society, health care professionals will have to provide culturally sensitive and appropriate health care to people of various nationalities.

The transnational marriage presents unique pressures resulting from changes in social relationships, personal roles, language, values, and attitudes. These changes may negatively influence an individual's health [16]. Previous studies found that poor adaptation to stress, lower socioeconomic status, and a language barrier were all health-influencing factors for immigrant women [16–18]. Literature indicates that most Southeast Asian women spouses in Taiwan are disadvantaged minorities with lower socioeconomic status and a lower level of education than the general population in Taiwan [19]. Southeast Asian women in Taiwan suffer from both immigration and transnational marriage-related pressures. In addition, the lower education and socioeconomic status of some of these women have made health issues even more diverse and complicated. Studies have found that stress related to language barriers, socioeconomic status, and difficulties in adapting to a new environment are all health-influencing factors, both physiologically and psychologically, for immigrant women. One such study reported that Thai women who immigrated to the US did not consider themselves to be susceptible to disease and, therefore, rarely engaged in health-promoting and disease preventative behaviors [20]. Similarly, research found that Southeast Asian women who immigrated to the UK did not consider themselves to be at risk for breast cancer and, therefore, did not perform breast self-examinations [21]. As Southeast Asian women in Taiwan typically belong to disadvantaged groups and most intend to have children for the traditional purpose of continuing the family bloodline [22], an HPL is not only important for their own health but will also influence the health of their children, spouses, and families.

At present, research regarding health issues of Southeast Asian women in Taiwan is limited, but a previous study has shown that the development of culturally sensitive healthpromoting programs is beneficial for health promotion [23], especially for immigrant women without access to the local health care system. This study explored the HPL of Southeast Asian women in Taiwan and its predicting factors. Ideally, health care providers will be able to use it as a guide in designing suitable health-promoting educational programs at the community level.

MATERIALS AND METHODS

Subjects

With the approval of the Department of Health in Tainan, the names of 124 subjects were randomly selected from 520 Southeast Asian women in transnational marriages living in Tainan. Nineteen subjects were rejected because they refused to participate in the study or they could not communicate verbally in Chinese or Taiwanese.

Instruments

A demographic inventory was used to gather data on nationality, age, education, socioeconomic status, length of stay in Taiwan, number of children, and Chinese language ability. Socioeconomic status was measured using Lin's revision of Hollingshed's two-factor socioeconomic status measure (which is the sum of the occupational index multiplied by 7 and the educational index multiplied by 4); five levels of socioeconomic status were used, with the highest level representing the highest socioeconomic status [24]. A score ranging from 52–55 corresponds to Level I, 41–51 to Level II, 30–40 to Level III, 19–29 to Level IV, and 11–18 to Level V.

Perceived health was measured with a three-item selfevaluation questionnaire about present general health, general health compared with 1 year ago, and general health compared to others of the same age. Each question was scored from 1 (poor) to 3 (good), with a total score ranging from 3 to 9. A higher total score correlated to a greater perception of health. Five experts, one each from the fields of nursing, health education, public health, psychology, and medical sociology, evaluated the questionnaire items and agreed that they measured perceived health and were appropriate for women in Taiwan. Alpha coefficients of 0.81 [25], 0.84 [26], and a 2-week testretest reliability coefficient of 0.88 [27] supported the instrument's reliability. The alpha coefficient reliability and 2-week test-retest reliability coefficients were 0.85 and 0.88 in the present study.

The Chinese version of the Health Promoting Lifestyle Profile (HPLP) [27], modified from Walker et al [6], was used to measure HPL. This 40-item scale analyzes six areas, including self-actualization, health responsibility, interpersonal support, exercise, stress management, and nutrition. Items were rated on a 4-point Likert scale, ranging from 0 (never) to 3 (always). Possible total scores ranged from 0 to 120, with a higher score indicating a more positive HPL. Five experts from the fields of psychiatry, gastrointestinal medicine, and nursing evaluated the HPL items. They agreed that the items measured health promotion. Chen et al also documented acceptable concurrent and construct validities [27]. Alpha coefficient reliability of the original scale was 0.92; alpha coefficients of the subscales ranged from 0.69 to 0.84 [27]. Alpha coefficient and 2-week test–retest reliabilities were 0.83 and 0.78, respectively, in the present study.

Procedure

Interviews were conducted with structured questionnaires in subjects' homes. Researchers contacted subjects to explain the purpose of the study and to ask them if they were willing to participate. The women were informed that they had the right to terminate their participation at any time and that any information obtained in connection with the study would remain confidential. After verbal consent was obtained, an interview was scheduled with each woman. A graphical presentation was used to explain the Likert scale (the shortest line means "never" and the longest means "always") after demographic data were collected. Data from participants who did not understand the explanation were excluded from the study. Each subject was interviewed face-to-face, with the investigator reading the questions and recording the answers.

RESULTS

The demographic characteristics of the 105 subjects are listed in Table 1. Mean age was 26.5 ± 3.9 years; mean number of years of education was 7.6 ± 3.5 ; mean age of husbands was 40.7 ± 5.4 years; mean number of years of education of the husband was 10.0 ± 2.76 ; and mean length of stay in Taiwan was 3.5 ± 1.7 years. Most of the subjects (56.2%) had socioeconomic status Level II, had one child (52.4%), were Vietnamese (83.8%), and were practitioners of Buddhism and Taoism (76.2%). Twelve subjects (11.4%) had been diagnosed with diseases: three with hepatitis B, two with anemia, one each with hypotension, headaches, nasal allergies, gastric disease, chronic appendicitis, uterine myoma, and urethritis.

Scores from the Perceived Health Scale and HPLP are shown in Table 2. The mean score for perceived health was 6.6 and that for overall HPLP was 60.4. Using a standardized score to compare the six dimensions of the HPLP, selfactualization obtained the highest standardized score, followed by nutrition; health responsibility had the lowest standardized score.

In Table 3, Spearman's rank correlation analysis found

Table 1. Demographic data of subjects (N = 105)					
Item	n (%)				
Age, yr ≤ 20 21-30 31-40 41-50	1 (1.0) 92 (87.6) 11 (10.5) 1 (1.0)				
Years of education < 1 1-6 7-12 ≥ 13	4 (3.8) 42 (40.0) 57 (54.3) 2 (2.0)				
Age of husband, yr 21–30 31–40 41–50 51–60	8 (7.6) 49 (46.7) 45 (42.9) 3 (2.9)				
Years of education of husband < 1 1-6 7-12 ≥ 13 No data	1 (1.0) 19 (18.1) 76 (72.4) 8 (7.6) 1 (1.0)				
Socioeconomic status I II III IV / V No data	12 (11.4) 59 (56.2) 25 (23.8) 2 (1.9) 7 (6.7)				
Length of stay in Taiwan, yr 1–3 4–6 7–10	64 (61.0) 35 (33.3) 6 (5.7)				
Number of children 0 1 2 3	16 (15.2) 55 (52.4) 32 (30.5) 2 (1.9)				
Nationality Vietnamese Indonesian Thai/Cambodian/Burmese	88 (83.8) 12 (11.4) 5 (4.8)				
Religion Buddhism/Taoism Christianity None	80 (76.2) 7 (6.7) 18 (17.1)				
Chinese language ability* Can read Can write	37 (35.2) 21 (20.0)				

*Multiple responses.

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	Mean ± SD	Actual range	Possible range	Standardized score*
HPLP	60.4 ± 11.8	24-85	0-120	50.3
Self-actualization	17.0 ± 4.0	6-23	0 - 24	70.8
Health responsibility	4.0 ± 3.1	0-18	0-24	16.7
Interpersonal support	11.4 ± 4.1	2-18	0-18	63.3
Exercise	6.4 ± 2.8	1 – 13	0-18	35.6
Stress management	11.4 ± 3.8	3-21	0-21	54.3
Nutrition	10.2 ± 3.0	3 - 15	0 – 15	68.0
Perceived Health	6.6 ± 1.4	3-9	3 - 9	73.3

Table 2. Scores of the Health Promoting Lifestyle Profile (HPLP) and Perceived Health (N = 105)

*Standardized score = (Mean score/Possible total score) × 100%.

Table 3. Correlation between study variables and the Health Promoting Lifestyle Profile (HPLP)

	Overall HPLP	Self- actualization	Health responsibility	Interpersonal support	Stress management	Exercise	Nutrition
Age	0.13	0.05	0.07	-0.01	-0.27*	0.03	0.05
Education	0.11	0.07	0.15	0.01	0.13	0.03	-0.02
Socioeconomic status	0.01	0.06	0.03	-0.06	-0.05	-0.04	0.10
Length of stay in Taiwan	0.18	-0.06	0.29*	0.10	0.24^{+}	0.11	-0.09
Number of children	0.13	-0.00	0.23*	0.05	0.25+	0.01	-0.11
Diagnostic disease	0.73	-0.08	-0.03	0.07	0.14	0.18	-0.00
Perceived health	-0.14	0.08	-0.20^{+}	-0.10	-0.17	-0.02	0.02
Chinese reading ability	0.26*	0.11	0.28*	0.08	0.23+	0.17	-0.01
Chinese writing ability	0.21+	0.08	0.31*	0.02	0.03	0.21+	0.16

p < 0.01; p < 0.05.

that overall HPLP had significant correlations with Chinese reading and writing abilities, indicating that subjects who could read and write Chinese had a more positive HPL. For the dimensions of the HPLP, health responsibility significantly correlated with length of stay in Taiwan, number of children, perceived health, and Chinese literacy. Subjects who have been in Taiwan longer, who have more children, a lower level of perceived health, and who are literate in Chinese had a higher level of health responsibility. Stress management had a significant correlation with age, length of stay in Taiwan, number of children, and Chinese reading ability. Younger subjects who have spent more time in Taiwan, had more children, and who can read Chinese were better at stress management. Physical exercise had significant correlations with Chinese writing ability: subjects who could write Chinese had higher levels of exercise. Stepwise regression analysis showed that Chinese reading ability was the best predictor of HPL, accounting for 26.2% of the total variance (Table 4).

DISCUSSION

The mean HPLP score was 60.4. Out of 40 health-promoting behaviors, the scores of 11 items were less than 1, indicating that some subjects never performed those particular

Table 4. Stepwise regression analysis of the Health-Promoting Lifestyle Profile (HPLP)						
	В	Standard B	Multiple R	Increase R ²	F	
Chinese reading ability Constant	6.42 58.09	0.26	0.07	0.26	7.52*	

 $^{\ast}p<0.01.$

behaviors. Using the same measuring scale to compare the mean score of the overall HPLP, it was found that Southeast Asian women in Taiwan had lower scores than public health nurses (mean score, 88.0) [28], physicians (84.0) [29], nurses (84.2), and nursing students (83.1) [3]. In addition, the mean score of the overall HPLP of our subjects was lower than that of high-risk groups such as women with a high risk of breast cancer (mean score, 64.0) [30] and patients with peptic ulcers (70.9) [31]. However, the mean score of the overall HPLP of our subjects was almost the same as that of Taiwanese aboriginal students (60.6) [1]. As the major health problems in Southeast Asian countries are infectious diseases [32], the promotion of a healthy lifestyle is not considered a priority. Encouraging health-promoting behaviors in Southeast Asian women who live in Taiwan should be a priority for health care professionals.

Among the six dimensions of the HPLP, self-actualization had the highest standardized score. While this result is consistent with some previous studies [9,31,33,34], it differs from those of Shiao et al [1] and Chen and Chang [3].

This study showed that Southeast Asian women have the ability and potential to maximize their level of health, i.e., although the customs, food, climate, and geography in the home country of these women are probably different from those in Taiwan, the women probably have the ability and potential to adapt to the new conditions in Taiwan. We found that health responsibility was the dimension that had the lowest standardized score. While this is different from some studies [3,28], it is consistent with a study by Chen et al [30], who found that only 44.6% of women with a high risk for breast cancer practiced breast self-examination, and a study by Kerr and Ritchey [35], who found that migrant farm workers tended to ignore their health situation due to their poor economic circumstances and the coexistence of many health risk factors [17].

Taiwanese men who marry Southeast Asian women are predominantly farmers and laborers [36]. Their poor economic situation and the coexistence of multiple health risk factors [17] make such men vulnerable, requiring more attention. Foreign women who come to Taiwan to marry usually receive a 4-month residence permit which can be used to apply for National Health Insurance. Nevertheless, when they do require medical attention, they seldom use the formal health care system due to economic and language barriers [22]. In addition, the general policy of most Southeast Asian countries is to focus on the control of contagious diseases rather than on the prevention of chronic diseases [32]. This may be a reason why these women would tend to ignore a health-promoting lifestyle when symptoms related to chronic disease are absent. Another possibility is that these women might have their own beliefs and values about health. Moreover, the young age of our research subjects may have led them to believe that they are in good health, and this could be a possible reason why they were not very conscious of their health.

A previous study found that the ability to understand, speak, read, and write Chinese positively influenced women within international marriages, their families, and society [37]. Hattar-Pollara and Meleis pointed out that a language barrier could hinder immigrant women from obtaining, applying, and judging health-related information [18]. Our study found that Chinese-literate subjects had a more positive HPL. Reading and writing Chinese are more difficult than listening and speaking. The sources from which someone with Chinese-reading ability can obtain health care information are significantly greater than the sources of information available to someone who is only able to speak and understand Chinese. Therefore, Southeast Asian women who have Chinese reading and writing abilities were more able to obtain health knowledge and make health decisions for a better HPL. Furthermore, in our study, Chinese reading ability was the most significant predictor of HPL, indicating that Southeast Asian women in Taiwan who could read Chinese had a more positive HPL.

The results of this study revealed that the highest score was for self-actualization, and the lowest score was for health responsibility. Chinese reading ability could explain 26.2% of the total variance of HPL of Southeast Asian women. As the number of marriages between people from Southeast Asia and Taiwan increase, the health of immigrant women and their offspring must become an important issue in Taiwan. The national government needs to reform existing health policies and set up future policies to care for this population [38].

Some limitations of this study were that data collection was restricted to Tainan, and no scale measuring subjects' comprehension of the Chinese language was developed. A scale to measure the level of comprehension of the Chinese language for Southeast Asian women should be developed. Furthermore, this study should be repeated with a greater number of subjects.

Based on the needs of Southeast Asian women, health care professionals can provide more appropriate channels through which these women can access health care. The government should provide intensive Chinese language courses for these women. At the same time, culturally appropriate materials such as health education pamphlets, brochures, and films, should be developed to increase the health-promoting knowledge of Southeast Asian women, helping them to have a more positive HPL.

REFERENCES

- 1. Shiao YJ, Chen ML, Chen MY. An investigation of aboriginal students' lifestyle from a health promotion perspective. *Chang Gung Nurs* 1999;10:1–11.
- Chew L, Cheah C, Koh YH. Health promotion program in the private workplaces in Singapore: a prevalence survey. *Singapore Med J* 2002;43:18–24.
- 3. Chen MY, Chang JC. Preliminary study of practicing health promotion lifestyles among the student nurses and nurses in Taoyuan Area. *J Nurs Res* 1995;3:6–15.
- Office of Disease Prevention and Health Promotion, United States Department of Health and Human Services. *Healthy People 2010*. Washington, DC: US Department of Health, 2000.
- 5. Travis JW. *Wellness Workbook for Health Professionals*. Berkeley, CA: Wellness Publications, 1977.
- Walker SN, Sechrist KR, Pender NJ. The health promotion lifestyle profile: development and psychometric characteristics. *Nurs Res* 1987;36:77–81.
- Easom LR. Concepts in health promotion. Perceived selfefficacy and barriers in older adults. *J Gerontol Nurs* 2003;29: 11–9.
- 8. Tapp JT, Goldenthal P. A factor analytic study of health benefits. *Prev Med* 1982;11:724–8.
- 9. Hulme PA, Walker SN, Effle KJ, et al. Health-promoting lifestyle behaviors of Spanish-speaking Hispanic adults. *J Transcult Nurs* 2003;14:244–54.
- 10. Pender NJ. *Health Promotion in Nursing Practice*. Norwalk: Appleton & Lange, 1987.
- 11. Wang HH, Chiu CR, Wang RH, et al. Discussion of women health promotion behaviors and related factors. *Public Health* 1992;19:251–65.
- 12. Green LW, Krueter MW. Health Promotion Planning: An Educational and Environmental Approach. Mountain View, CA: Mayfield, 1991.
- 13. Wiley J, Camacho T. Life-style and future health: evidence from the Alameda county study. *Prev Med* 1980;9:1–21.
- 14. Li IC. The application of health promotion in nursing practice. *J Nurs* 2000;47:5–12.
- Yang YM, Wang HH. Life and health concerns of Indonesian women in transnational marriages in Taiwan. J Nurs Res 2003; 11:167–76.
- 16. Lipson JG. Afghan refugee health: some findings and suggestions. *Qual Health Res* 1991;1:349–69.
- 17. Benjamin R. Feeling poorly: the troubling verdict on poverty and health care in America. *Natl Forum* 1996;76:39–42.
- 18. Hattar-Pollara M, Meleis AI. The stress of immigration and the daily lived experiences of Jordanian immigrant women in the United States. *West J Nurs Res* 1995;17:521–39.
- 19. Chang CC. Southern Taiwan Bride Family Function, Sense of Happiness and Related Factors. Result report of the National

Science Committee, Executive Yuan, Taipei: National Science Committee, 1999.

- 20. Choudhry UK, Srivastava R, Fitch M. Breast cancer detection practices in South Asian women: knowledge, attitudes, and beliefs. *Oncol Nurs Forum* 1998;25:1693–701.
- 21. Bhakta P, Donnell P, Mayberry J. Management of breast disease in Asian women. *Prof Nurse* 1995;11:187–9.
- 22. Wang HH, Yang YM. The health of Southeast Asian women in transnational marriages in Taiwan. *J Nurs* 2002;49:35–41.
- Kreuter MW, Lukwago SN, Bucholtz RD, et al. Achieving cultural appropriateness in health promotion programs: targeted and tailored approaches. *Health Educ Behav* 2003;30: 133–46.
- 24. Lin SC. Educational Sociology. Taipei: Fu Wei, 1993.
- 25. Huang YH, Chiou CJ. Predictors contributing to healthpromoting lifestyles among college students in the Kaohsiung area. *Chin J Public Health* 1997;16:24–36.
- 26. Wang HH. Predictors of health promotion lifestyle among three ethnic groups of elderly rural women in Taiwan. *Public Health Nurs* 1999;16:321–8.
- 27. Chen MY, Chou CC, Shiau HS, et al. The development of a Chinese version of the health promoting lifestyle profile. *Chang Gung Nurs* 1997;8:14–23.
- 28. Chen MY, Chang LJ, Liao JH, Chou CC. The preliminary study of health-promotion lifestyles of public health nurses. *J Nurs Res* 1994;2:41–54.
- 29. Chen MY, Wang EK, Chiou HJ, et al. The preliminary study of practicing health promotion lifestyle among the physician. *Chin J Public Health* 1995;14:41–50.
- Chen MY, Chang HC, Li MY. Health promotion behaviors among women with high risk breast cancer – from the self-care perspective. J Health Sci 2002;4:63–74.
- Chen MY, Lai HG, Chen ML. The health promoting behaviors among the peptic ulcer patients before first hospitalization. *Chang Gung Nurs* 1999;10:1–8.
- Kaye K, Novell MK. Health practices and indices of a poor urban population in Indonesia. Part I: Patterns of health service utilization. *Asia Pac J Public Health* 1994;7:178–82.
- 33. Carlson ED. A case study in translation methodology using the Health-Promotion Lifestyle Profile II. *Public Health Nurs* 2000;17:61–70.
- Duffy ME, Rossow R, Hernandez MT. Correlates of and healthpromotion activities in employed Mexican American women. *Nurs Res* 1996;45:18–24.
- Kerr MJ, Ritchey DA. Health-promoting lifestyles of Englishspeaking and Spanish-speaking Mexican-American migrant farm workers. *Public Health Nurs* 1990;7:80–7.
- Hsia HC. Transnational marriage and internationalization of capital – the case of the "foreign bride" phenomenon in Taiwan. *Radical Q Soc Stud (Taiwan)* 2000;39:45–92.
- 37. Chiu SW. Southern Taiwan bride to recognize a word and life education: assimilate? Diversification? *Soc Educ Stud* 2000;29: 197–219.
- Del Rio MM. The role of connection to the native culture in intercultural marriages: perceptions of Puerto Rican women. *Dissertation Abstracts International Section B: The Sciences and Engineering* 1999;59:3768.

台灣東南亞籍婦女健康促進生活方式初探

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本研究目的是在了解台灣之東南亞籍婦女健康促進之生活方式及其預測因子。以台南 市之東南亞籍婦女共 105 名為研究對象,以面對面訪談方式施以結構性問卷調查。 研究結果發現健康促進生活方式之 6 因素中,自我實現得分最高,健康責任得分最 低,具有讀及寫中文之能力者有較正向之健康促進的生活方式。經由逐步複迴歸發 現,具有中文閱讀能力,可解釋東南亞籍婦女健康促進行為之生活方式的 26.2% 變 異量。研究結果可幫助健康專業人員初步了解東南亞籍婦女健康促進行為之生活方 式,進而設計文化適切之健康促進介入措施,以促進此群體健康安適及生活品質。

> **關鍵詞**:東南亞籍婦女,自覺健康狀況,健康促進之生活方式 (高雄醫誌 2005;21:114-20)

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