Quality of Life and Risk Factors That affect the Quality of Life of Thai Female Physicians

Teraporn Vutyavanich MD*,**, Rungaroon Sreshthaputra MSc**,
Wiboolphan Thitadilok MD*,***, Nares Sukcharoen MD*,****

* Royal Thai College of Obstetricians and Gynaecologists, The Royal Golden Jubilee Building, Bangkok
** Department of Obstetrics and Gynecology, Faculty of Medicine, Chiang Mai University, Chiang Mai
*** Department of Obstetrics and Gynecology, Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok
**** Department of Obstetrics and Gynecology, Faculty of Medicine, Chulalongkorn University, Bangkok

Objective: *To study the quality of life (QOL) and risk factors that affect QOL of Thai female physicians.*
Material and Method: *The Thai version of the brief form of WHO quality of life assessment instrument (WHOQOL-BREF-THAI) and risk assessment questionnaires were mailed to 1,700 randomly selected female physicians.*
Results: *The authors obtained a response rate of 41.9%. Most physicians were married (57.3), they worked 57.3 hours/week, and had a mean income of 64,622 baht/month. The prevalence of obesity was 12.6%. Most (99.3%) did not drink alcohol, 69.6% avoided high cholesterol and a fat diet, 65.8% consumed a balanced diet, and 55.9% included vegetables and fruit in half of their meals. The majority (62.2%) exercised for less than 30 min/day. They used a safety belt (92.1%) or crash helmet (87.5%) when driving a motor vehicle. Regarding their current health, 8.9% had hearing problems, 6.1% had diabetes, 3.3% had glaucoma, and 1.8% had hypertension.*
Conclusion: *Most female physicians had fair to good QOL scores. They were health and safety conscious. These aspects can be used in a campaign to promote a healthier life-style for Thai women.*

Keywords: *Thai female physician, Quality of life, Health risk factors*

Women play an important role in modern Thai society. They work alongside men in most careers. At home, they take care of their husbands, children, and other family members. As mothers, they pass on their knowledge and attitudes towards a good and healthy life-style to their children. It is, therefore, important to promote the health and quality of life of women to enable them to fulfill their essential roles.

Physicians are social elites and health team leaders. They can influence the health of patients and the population at large. In many countries, including Thailand, physicians enjoy the privilege of a longer life expectancy than the general population[1]. Female physicians are, therefore, in a perfect position to serve as role models on how to lead a good and healthy life for their fellow country females. Unfortunately, there have hardly been any studies that focused on the health of Thai female physicians. The objectives of the present study were to assess the quality of life (QOL) of Thai female physicians and identify factors affecting their QOL. The information will be useful to develop a strategy to promote a healthier life-style for all Thai females, using female physicians as a model.

Material and Method

The authors used computer-generated random numbers to select 1,700 subjects by their medical license number, from 10,233 female physicians in the database of the Center for Continuing Medical Education, at the Medical Council of Thailand. Introductory letters, questionnaires, and reply postage were sent by

Correspondence to : Vutyavanich T, Department of Obstetrics and Gynecology, Faculty of Medicine, Chiang Mai University, Chiang Mai 50200, Thailand. Phone: 053-945-552, Fax: 053-894-883, E-mail: tvutyava@mail.med.cmu.ac.th, tvutyava @hotmail.com

mail to potential respondents. The letters explained the purposes of the present study, what the questionnaire was about, and why its completion was of value. If a selected subject was not reachable by mail or had already passed away, the next female physician on the database list was selected. After 3 months, a second set of questionnaires was sent to those who did not respond the first time.

The questionnaire contained a brief introductory statement, contact and return information, questions about personal data, the Thai version of the brief form of the WHO quality of life assessment instrument (WHOQOL-BREF-THAI) to assess the quality of life[2] and finally a "yes" or "no" response to various health risk factors. The questionnaire was tested on a small sample of female resident physicians to minimize the error rate on the answers. The respondents spent less than 20 minutes to complete the questionnaire.

The WHOQOL-BREF is a short version of the WHOQOL-100, which was initiated by the World Health Organization and developed collaboratively in a number of centers worldwide to serve as an international instrument for quality of life (QOL) assessment[3]. The WHOQOL-BREF-THAI has been tested in a large population against the WHOQOL-100, and it was found to be a valid and reliable assessment of QOL[2]. Moreover, it was more convenient and practical to use than the original full version[2, 4]. The WHOQOL-BREF-THAI consists of 26 items, each with 5-point Likert responses. The instrument assesses four broad domains, namely physical health (7 items), psychological well-being (6 items), social relationships (3 items), and satisfaction with the environment (8 items)[2]. The score in each domain (subscale) is calculated by adding up the scores of the corresponding items. The overall QOL score is the summation of all four subscale scores plus another two global item scores. The QOL score is then used to classify the quality of life as bad, fair or good (Table 1)[2].

The risk assessment questionnaire was modified from the instrument employed by Wattanasirichai-goon et al[5] in their survey on the health of Thai physicians. It consisted of questions with a "yes" or "no" response on diet, exercises, family history, chronic diseases, and other health behavior such as smoking, alcohol consumption and the use of seat belts when driving a car, etc.

Data analysis

Data were coded and entered into Microsoft Office Excel (Microsoft Corporation, USA) and imported into Stata version 8.2 for Windows (StataCorp, College Station, Texas) for statistical analysis. Descriptive statistics were used to summarize baseline characteristics as percentages or mean $\pm$ standard deviation (SD) as appropriate.

Chi-square and Fisher exact tests were used to compare frequency data. Two-sample t-test and ANOVA tests were used to compare continuous variables as appropriate. Correlation coefficient was calculated to find the relationship of age and working time. A stepwise logistic regression was used to assess important risk factors and 95% confidence interval (95% CI) that affected the QOL of female physicians. A p-value of < 0.05 was considered statistically significant.

Results

The authors obtained a response rate of 41.9% (713 of 1,700 subjects). Personal data of the respondents were summarized in Table 2. Most of them (57.3%) were married. Only 151 physicians (21.2%) were general practitioners. The six most common fields of specialty were pediatrics (19.1%), internal medicine (11.4%), obstetrics and gynecology (8.8%), anesthesiology (7%), radiology (6.9%) and ophthalmology (4.2%). The mean age of the female general practitioners (39 ± 1.1 years) was significantly lower than that of practiced specialists (42 ± 0.6 years; $p = 0.007$).

The average income of female physicians increased in accordance with increasing age (Table 3). However, a sharp drop in their income occurred after retirement, as many of them relied only on their pension.

Table 1. Subscale and overall quality of life scoring criteria[3]

Subscales	Bad	Fair	Good
Physical health	7-16	17-26	27-35
Psychological health	6-14	15-22	23-30
Social relationship	3-7	8-11	12-15
Satisfaction with the environment	8-18	19-29	30-40
Overall	26-60	61-95	96-130

Table 2. Demographic data (n = 713)

	Mean	SD	Range
Age (year)	41.5	13.6	25-91
Body weight (kg)	53.3	8.5	34-99
Height (cm)	157.9	5.3	140-175
BMI (kg/m²)	21.4	3.4	13.6-41.2
Number of working (hours/day)	8.4	2.1	0-20
Number of working (days/week)	5.3	0.9	0-7
Age of husband (n = 124)	46.6	12.9	27-89
Income (Baht/month)	64,622.2	69,273.2	4,000-1,000,000
Family income (Baht/month) (n = 518)	116,965.7	156,463.8	5,000-2,000,000

SD = standard deviation, n = no. of respondents

Table 3. Mean income of Thai female physicians by age group (n = 676)

Age (year)	Number	Mean income (baht)	SD	Minimum	Maximum
≤ 29	136	42,000.0	49,398.6	5,000	350,000
30-39	232	65,226.3	82,154.6	8,400	1,000,000
40-49	158	74,597.9	51,054.5	17,000	350,000
50-59	88	92,772.7	88,260.0	10,000	700,000
≥ 60	62	46,607.0	38,073.9	4,000	250,000

ANOVA test: F = 9.5959, p < 0.0001

Table 4. Quality of life (QOL) and subscale QOL scores of Thai female physicians (n = 713)

Domain	QOL scores (Mean ± SD)	Quality of life (QOL) level		
		Bad	Fair	Good
Physical health	26.8 ± 3.3	2 (0.3%)	298 (41.8%)	413 (57.9%)
Psychological health	22.7 ± 3.0	5 (0.7%)	300 (42.1%)	408 (57.2%)
Social relationship	10.7 ± 1.6	22 (3.1%)	461 (64.7%)	230 (32.2%)
Satisfaction with the environment	28.1 ± 4.1	12 (1.7%)	447 (62.7%)	254 (35.6%)
Overall	95.5 ± 10.8	1 (0.1%)	352 (49.4%)	360 (50.5%)

The working hours of female physicians had an inverse relationship with age (r = -0.2416, p = 0.003). Young physicians worked significantly longer hours than older ones (p < 0.001).

Most of the physicians practiced in the greater Bangkok area (54.1%), followed by the North (15.4%), Central region (11.8%), Northeast (9.5%) and South (9.1%). More physicians in the ≥ 60 years age group (79.2%) lived in the greater Bangkok area than those of other age groups (p = 0.001). There was no significant difference in their income when stratified by regions (F = 1.5647, p = 0.1820).

Quality of life

The internal consistency tested by Cronbach alpha coefficient for overall QOL was good at 0.90. The subscale alpha coefficients for physical health, psychological well-being, social relationships, and satisfaction with the environment were acceptable at 0.7100, 0.7882, 0.5526, and 0.7907, respectively.

Half of the female physicians in the present study (50.5%) had a good QOL level; 57.9% and 57.2% had good physical and psychological health, respectively (Table 4). There was no significant difference in the QOL level between subjects in different regions of

the country (p = 0.2). However, when stratified by age, significantly more physicians in the 50-59 age-group (72.5%) had "good QOL level" than the others (47.3%; Chi-square = 29.47, p < 0.001). In the domain of social relationships (3 items), most female physicians rated satisfaction with their sex life as fair, while they rated the other 2 items as good. As a result, most physicians (64.7%) had a total subscale score on social relationships at the fair level. From the eight items in the domain of satisfaction with the environment, only the opportunity for leisure activities was rated as fair or very little by most female physicians. Consequently, the majority of subjects (62.7%) had only a fair level of satisfaction with the environment.

Health behavior and risk factors

Most Thai female physicians consumed less than one drink of alcohol per day (99.3%), used toothpaste fortified with fluoride (72.1%), avoided diets high in cholesterol and fat (69.6%), balanced dietary intake of carbohydrate, protein and fat (65.8%), and included vegetables and fruit in half of their daily meals (55.9%). Most of them (99.6%) did not smoke, but 7.9% reported indirect exposure to cigarette smoke at home or work. Only 12.1% consumed vegetarian food often or on a regular basis. The majority (62.2%) exercised less than 30 min/day, or walked fewer than 5 kilometers or less than 10,000 steps per day.

Most female physicians used a safety belt (92.1%) or crash helmet (87.5%) when driving a motor vehicle. They did not drive when drunk and avoided drunk drivers (95.8%). However, only 26.3% had a smoke detector at home.

The majority of female physicians realized the importance of health prevention and promotion. For example, 88.5% had had their blood pressure checked less than 1 year previously, 86.7% had immunity against rubella, 78.2% had immunity against hepatitis B virus, 76.5% performed regular breast self-examination, and 45% of married female physicians had had their papanicolaou smear checked less than 1 year before. Although 66.8% had to wear glasses, 29.1% had never had an eye check-up by an ophthalmologist.

Regarding their current health status, 8.9% had hearing problems, 6.1% had diabetes, 3.3% had glaucoma, 2.4% had premature ovarian failure at an age of <40 years and 1.8% had hypertension. Many of the subjects had a family history of hypertension (58.7%), hyperlipidemia (58.1%), heart disease (30%), or carcinoma (36.2%).

Univariate analysis showed that 5 out of 26 variables were related to the quality of life (good versus fair or poor) of Thai female physicians, with a p-value of 0.1 or less. These variables were 1) balanced dietary intake of carbohydrates, protein and fat; 2) consumption of vegetables and fruit more than 500 gm/day or more than one half of their meals; 3) exercising < 30 min/day or walking < 5 km/day or < 10,000 steps/day; 4) use of safety helmet when driving; and 5) not having glaucoma. When the five variables were incorporated into the full model and backward stepwise logistic regression analysis was performed, only three variables significantly predicted the quality of life of female physicians in the present study. Female physicians who had a balanced intake of carbohydrates, protein and fat had an adjusted odds ratio (OR) of 1.9 (95% confidence interval or CI = 1.4-2.6; p < 0.001) on having good QOL than those who did not have a balanced diet. Physicians who consumed vegetables and fruit at more than 500 gm/day or more than one-half of their meals had an OR of 1.52 (95% CI = 1.1- 2.1; p = 0.009) on having good QOL than those who did not. Female physicians who did not have glaucoma had an OR of 1.38 (95% CI = 1.2-5.9, p = 0.014) on having good QOL than those who did.

Discussion

When comparing the Thai physician health survey in 2004[5] with the present study, the authors found that the mean age (40.8 and 41.5 years), percentage of married physicians (59.5% and 57.3%), and percentage of those who wore glasses (63.8% and 66.8%) were very similar. However, the average working hours/week in the present study was less than that in the previous study (43.7 versus 62.4 hours/week). In the Thai physician health survey, only 151 female physicians out of 380 were surveyed (39.7%). It was possible that the female subjects in the present study had to perform a dual role as physician and housewife. Consequently, they had less time to do private practice outside office hours. Nevertheless, their average of 8.4 working hours/day for 5.2 days a week was higher than the average of 7 hours/day for 5 days a week in other professions.

The Thai female physicians in the present study had an average body mass index (BMI) of 21.4 kg/m². The prevalence of obesity (BMI ≥ 25 kg/m²) in this group was only 12.6%, compared to 27.5% in the general Thai population[6]. This could possibly be explained by their dietary behavior, such as avoiding high cholesterol and high fat diets, balancing intake of

carbohydrate, protein, and fat, and including of a high-fiber diet in half of their daily meals. In contrast, 35.3% of housewives in Bangkok and 38.7% of housewives in upcountry consumed a high-fiber diet, and only 16-17% took a low-fat diet[7].

Only 38% of female physicians exercised for more than 30 minutes/day or walked over 5 kilometers or more than 10,000 steps per day. Although low, this number is still nearly twice as high as the rate of exercise among ordinary Thai females aged 15 and over (19.3%)[8].

Female physicians were safety conscious as the majority always used a safety belt (92.1%) or crash helmet (87.5%) when driving a motor vehicle. According to the Thai National Statistical Office, the rate of regular safety belt and crash helmet use among drivers aged 14 and over was only 13.7% and 12.3%, respectively, and the rate of occasional use was 22.3% and 48.8%, respectively[9].

The rate of smoking was only 0.4% among female physicians in our study, compared to 2.2% of Thai females in general[10] and 5.8% among the physicians (mostly male) in the Thai physician health survey[5]. Nevertheless, 7.9% of the presented subjects reported indirect exposure to cigarette smoke. It is now widely accepted that such passive smoking is also detrimental to health, as it increases the risk of lung cancer, ischemic heart disease, and acute myocardial infarction[11]. The prevalence of drinking among female physicians was only 0.7%, which is much lower than the 9.8% prevalence among general Thai females[10].

Although 58.7% of female physicians in the present study had a family history of hypertension (blood pressure > 140 systolic or > 90 diastolic), and 64.7% currently had someone in the family affected by this condition, only 1.8% of them were hypertensive [95% CI = 0.8%-2.7%]. This prevalence was significantly lower than that in the general population (3.1%; 95% CI = 2.9%-3.3%)[12]. Similarly, the prevalence of diabetes in the present study population was 6.1% (95% CI = 4.4%-8.0%), which was significantly lower than the general Thai female population (9.1%; 95% CI = 8.7%-9.4%)[12].

There were some limitations in the present study. The response rate was less than 50%. Only 33.7% of female physicians in the Northeastern region returned the questionnaires, compared with between 41.5%-48.8% in the other regions (p = 0.030). Despite this limitation, it is somewhat reassuring that the geographic distribution of female physicians in the present study closely reflected the distribution of Thai physicians at the national level, i.e. physicians were mostly clustered in Bangkok (39.7%) and most sparse in the South (8.7%)[13]. Demographic data of physicians in the present study were also in agreement with those in the previous Thai physician health survey.

The authors believe that one of the main reasons for the low response to the present study was the inaccuracy in the mailing addresses in the database of the Thai Medical Council. Young physicians usually gave their home as a contact address, but in fact they were working in other provinces far away from home. After serving their term of work for the government, they usually moved to other places, entered residency training programs, or furthered their education abroad. Another main reason was the respondents' very heavy workload, which left them little time or motivation to fill in the questionnaires. Some questions towards the end of the risk factor assessment questionnaire were answered by less than 50% of the respondents and they were, therefore, not included in the analysis of the present study.

References

1. Rattanamongkolgul S, Sithisarankul P, Wattanasirichaigoon S. Life expectancy of Thai physicians during 1998-2002. J Med Assoc Thai 2004; 87 (Suppl 4): S19-22.
2. Mahatnirunjul S, Tuntipivatanakul W, Pumpisanchai W. Comparison of the WHOQOL-100 and the WHOQOL-BREF (26 items). J Ment Health Thai 1998; 5: 4-15.
3. The World Health Organization Quality of Life assessment (WHOQOL): position paper from the World Health Organization. Soc Sci Med 1995; 41: 1403-9.
4. Phungrassami T, Katikarn R, Watanaarepornchai S, Sangtawan D. Quality of life assessment in radiotherapy patients by WHOQOL-BREF-THAI: a feasibility study. J Med Assoc Thai 2004; 87: 1459-65.
5. Wattanasirichaigoon S, Ruksakom H, Polboon N, Sithisarankul P, Visanuyothin T. Thai physicians health survey. J Med Assoc Thai 2004; 87(Suppl 4): S1-4.
6. Department of Health, Ministry of Public Health.

Prevalence rate of obesity in Thailand by age, 1986 and 1995. Available from: http://www.moph.go.th/ops/thealth_44/CHA4_7. Accessed November 30, 2006.

7. Prapapen S. Study on behaviour and environmental conditions supporting health of the youth, housewives and factory workers. Research report supported by Health System Research Institute, Ministry of Public Health, 1996. Available from: http://www.moph.go.th/ops/thealth_44/CHA4_7. Accessed November 30, 2006.

8. National Statistical Office, Thailand. A survey on physical activity behavior of population aged 15 and over. Data from the preliminary summary report on health and welfare 2001. Available from: http://www.moph.go.th/ops/thealth_44/CHA4_7. Accessed November 30, 2006.

9. National Statistical Office, Thailand. Rate of drivers aged 14 and over by use of safety belt. Data from Health and Welfare Survey 2001. Available from: http://www.moph.go.th/ops/thealth_44/CHA4_7. Accessed November 30, 2006.

10. National Statistical Office, Thailand. Survey of population's tobacco and liquor consumption, 2001. Available from: http://www.moph.go.th/ops/thealth_44/CHA4_7. Accessed November 30, 2006.

11. US Department of Health and Human Services, Environmental Protection Agency. Respiratory health effects of passive smoking: lung cancer and other disorders (Smoking and Tobacco Control Monograph 4). NIH Publication No. 93-3605. Washington, DC: DHHS: 1993.

12. National Statistical Office, Ministry of Public Health, Thailand. Morbidity and mortality rates from important non-infectious diseases 1993-1997. Available from: http://epid.moph.go.th/NCDweb2/Dr_lee/Statistic_table1.html. Accessed December 8, 2006.

13. Ministry of Public Health. Distribution of medical doctors by region, 1979-2000. Report on health resources, Bureau of Health Policy and Plan, Ministry of Public Health. Available from: http://imd.moph.go.th/gis/map/gis-01.php. Accessed November 30, 2006.

คุณภาพชีวิตและปัจจัยเสี่ยงที่มีผลต่อสุขภาพของแพทย์สตรีไทย

ธีระพร วุฒยวนิช, รุ่งอรุณ เศรษฐบุตร, วิบูลพรรณ ฐิตะดิลก, นเรศร สุขเจริญ

วัตถุประสงค์: เพื่อศึกษาคุณภาพชีวิตและปัจจัยเสี่ยงที่มีผลต่อคุณภาพชีวิตของแพทย์สตรีไทย

วัสดุและวิธีการ: ทำการสุ่มตัวอย่าง และจัดส่งแบบประเมินคุณภาพชีวิตฉบับย่อภาษาไทยขององค์การอนามัยโลก และแบบประเมินปัจจัยเสี่ยงไปยังแพทย์สตรีจำนวน 1,700 ราย ทางไปรษณีย์

ผลการศึกษา: อัตราการตอบแบบสอบถามคิดเป็นร้อยละ 41.9 (713 ราย) แพทย์สตรีส่วนใหญ่ (57.3%) แต่งงานแล้ว มีเวลาการทำงานเฉลี่ย 57.3 ชั่วโมง/สัปดาห์ และมีรายได้เฉลี่ย 64,622 บาท/เดือน ภาวะอ้วนพบ เพียง 12.6% ส่วนใหญ่ (99.3%) ไม่ดื่มแอลกอฮอล์ 69.6% หลีกเลี่ยงการรับประทานอาหารที่มีไขมัน และคอเลสเทอรอลสูง 65.8% รับประทาน อาหารที่มีคาร์โบไฮเดรต โปรตีน และไขมันสมดุล 55.9% รับประทานผักสดและผลไม้ราวครึ่งหนึ่งของอาหารที่ รับประทานส่วนใหญ่ (62.2%) ออกกำลังกายน้อยกว่าวันละ 30 นาที 92.1% ใส่เข็มขัดนิรภัย หรือ สวมหมวกกันน็อก เวลาขับขี่ ในด้านที่เกี่ยวกับสุขภาพปัจจุบัน พบว่า 8.9% มีปัญหาเกี่ยวกับการได้ยิน 6.1% เป็นเบาหวาน 3.3% เป็นต้อหิน และ 1.8% มีภาวะความดันโลหิตสูง

สรุป: แพทย์สตรีส่วนใหญ่มีคุณภาพชีวิตในเกณฑ์ปานกลางถึงดี มีความสนใจในด้านความปลอดภัย และการรักษา สุขภาพ ซึ่งข้อดีเหล่านี้น่าจะนำไปใช้ในการรณรงค์เพื่อส่งเสริมสุขภาพของสตรีไทย