

ความชุก ปัจจัยเสี่ยงของโรคหลอดเลือดสมอง และภาวะซึมเศร้าภายหลังโรคหลอดเลือดสมองในจังหวัดพัทลุง: การศึกษาแบบตัดขวาง

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Prevalence, Risk Factors of Stroke and Post Stroke Depression in Phatthalung Province: A Cross Sectional Study.

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บทคัดย่อ:

วัตถุประสงค์: การศึกษาแบบตัดขวางนี้มีวัตถุประสงค์เพื่อศึกษาความชุก ปัจจัยเสี่ยงของโรคหลอดเลือดสมอง ภาวะสูญเสียสมรรถภาพทางกาย และภาวะซึมเศร้าภายหลังโรคหลอดเลือดสมองในจังหวัดพัทลุง ซึ่งติดหนึ่งในสิบอันดับจังหวัดที่มีความชุกของโรคหลอดเลือดสมองสูงสุดในประเทศไทย

วัสดุและวิธีการ: ประชากรคือกลุ่มอายุ 35 ปีขึ้นไป คำนวณขนาดตัวอย่างโดยสูตรการประมาณค่าจากสัดส่วนประชากร และสุ่มแบบแบ่งชั้น ได้ตัวอย่าง 2,843 ราย เก็บข้อมูลทั่วไปและข้อมูลปัจจัยเสี่ยงของโรคหัวใจและหลอดเลือด ประชากรที่ป่วยด้วยโรคหลอดเลือดสมองจะถูกคัดแยกออกมาและตรวจยืนยันการวินิจฉัยโดยประสาทแพทย์ในขณะวิจัย เครื่องมือที่ใช้ประเมินการสูญเสียสมรรถภาพทางกายและโรคซึมเศร้าภายหลังโรค

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หลอดเลือดสมอง คือ บาร์ธเอล อินเด็กซ์ (Barthel Index) และคะแนนความซึมเศร้าของผู้สูงอายุไทย (Thai Geriatric Depression Score) ตามลำดับ ข้อมูลทั่วไปถูกนำเสนอในรูปแบบสถิติเชิงพรรณนา ความสัมพันธ์ระหว่างการเกิดโรคหลอดเลือดสมองกับปัจจัยเสี่ยง วิเคราะห์ด้วย multiple logistic regression analysis ความสัมพันธ์ระหว่างอาการของโรคหลอดเลือดสมองกับโรคซึมเศร้าภายหลังโรคหลอดเลือดสมองวิเคราะห์ด้วย Pearson's product moment correlation

ผลการศึกษา: จำนวนตัวอย่างที่รวบรวมได้ 2,843 ราย ความชุกของโรคหลอดเลือดสมองเท่ากับร้อยละ 2.21 (ช่วงความเชื่อมั่นที่ร้อยละ 95; 95% CI 0.017 ถึง 0.028) ปัจจัยเสี่ยงของโรคหัวใจและหลอดเลือดที่สำคัญคือ ความดันโลหิตสูง (OR 11.95; 95% CI 6.291 ถึง 22.710) อายุมากกว่าหรือเท่ากับ 55 ปี (OR 2.94; 95% CI 1.612 ถึง 5.378) สูบบุหรี่ (OR 1.08; 95% CI 1.073 ถึง 2.632) และเพศชาย (OR 1.67; 95% CI 1.002 ถึง 2.776) ค่าเฉลี่ยคะแนนบาร์ธเอล อินเด็กซ์ เท่ากับ 10.13 และความชุกของโรคซึมเศร้าภายหลังโรคหลอดเลือดสมองเท่ากับร้อยละ 72.5 และพบว่าผู้ป่วยอายุน้อยเพิ่งจะเป็นโรคหลอดเลือดสมอง และมีภาวะการพึ่งพาารุนแรง จะมีระดับของความซึมเศร้าที่รุนแรง

สรุป: ความดันโลหิตสูง ภาวะสูงอายุ การสูบบุหรี่ และเพศชาย เป็นปัจจัยเสี่ยงที่สำคัญของโรคหลอดเลือดสมองในการศึกษาครั้งนี้ นอกเหนือจากการบำบัดภาวะสูญเสียสมรรถภาพทางกายแล้ว การดูแลรักษาโรคซึมเศร้าภายหลังโรคหลอดเลือดสมองเป็นสิ่งที่ควรเน้นย้ำเพื่อการดูแลผู้ป่วยแบบองค์รวม

คำสำคัญ: ความชุกของโรคหลอดเลือดสมอง, ปัจจัยเสี่ยงต่อการเกิดโรคหลอดเลือดสมอง, ภาวะซึมเศร้าภายหลังโรคหลอดเลือดสมอง

Abstract:

Objective: To explore the prevalence, risk factors of stroke, post stroke disability and depression in a top-ten high stroke prevalence province in Thailand.

Material and Method: A cross sectional study on stratified community-based sampling of population aged over thirty five years in Phatthalung province was conducted. The demographic data and cardiovascular risk factors were collected, and the subjects with stroke were identified and confirmed by a neurologist. Barthel's Index (BI) as well as the Thai Geriatric Depression Scale (TGDS) assessed the post stroke disability and depression.

Results: A total subjects of 2,843 were enrolled. The prevalence of stroke was 2.21% (95% Confidence Interval; 95% CI 0.017 to 0.028). The significant risk factors for stroke found were hypertension (OR 11.95; 95% CI 6.291 to 22.710), age fifty five years old or more (OR 2.94; 95% CI 1.612 to 5.378), smoking (OR 1.68; 95% CI 1.073 to 2.632), and male gender (OR 1.67; 95% CI 1.002 to 2.776). The mean BI score was 10.13, and the prevalence of post stroke depression was as high as 72.5%. The young, recent and severely disabled stroke patients had a higher prevalence of post-stroke.

Conclusion: Hypertension, advanced age, smoking, and male gender were the significant risk factors for stroke. Apart from physical disability, proper care and management of post stroke depression should be emphasized in a holistic approach.

Keywords: depression, disability, prevalence, stroke, risk factors

Introduction

Stroke is a common neurological disease and public health burden due to its high rates of fatality and residual disability. It is the second most common cause of death following ischemic heart disease in the world. Two-thirds of all stroke deaths have occurred in developing countries.¹⁻³ In Thailand, stroke is the first and second most common cause of quality of life loss in females and males, respectively.⁴ A previous epidemiological study in 1983 in Thailand revealed a prevalence of 690:100,000 in the over twenty-year-old Bangkok residents.⁵ A following nationwide study in 1998, including people who were older than sixty, found a prevalence of 1,120:100,000.⁶ The prevalence of stroke increases with age, and varies among regions of Thailand.⁷ This study aimed to estimate the current prevalence of stroke and its associated risk factors in a high stroke prevalence province in southern Thailand, and to estimate the prevalence of post stroke disability and depression.

Material and Method

A community-based, cross-sectional study was conducted among residents aged over 35 years in Phatthalung province, southern Thailand. Phatthalung was ranked in the top-ten, high stroke prevalence provinces in a national health survey (721.58: 100,000 during the year 2008-2009).⁸ The estimated sample size was calculated based on the prevalence of stroke in Thailand, the incidence of stroke in southern Thailand (1.5%) and the ratio of stroke incidence during the past 10 years (2.45 during 1999-2009).^{6,9} The estimated number of subjects required for this study was 2,268. A multi-

stage sampling technique was applied to randomly select five out of eleven districts in Phatthalung province, then two sub-districts out of each district and finally one village out of each sub-district. The demographic data, stroke symptoms and cardiovascular risk factors were collected by direct interviews from all enrolled subjects. Simple physical and neurological examinations were performed by a group of well-trained public health students to identify those with a history of stroke. Diagnosis of stroke was confirmed by a neurologist in our team. Barthel's index (BI) and the Thai Geriatric Depression Scale (TGDS) were used to assess residual physical and psychological disability respectively after a stroke.^{10,11}

The results were shown by descriptive statistics such as frequency, percentage, mean and standard deviation. Multiple logistic regression analysis was used to determine independent risk factors for stroke. The correlation between age at onset of stroke, duration of stroke illness, and dependency to depression were calculated by Pearson's product moment correlation. The current study protocol was approved by the Ethics Committee of Faculty of Medicine, Prince of Songkla University.

Results

A total of 2,843 subjects were enrolled for analysis in this study. They were composed of 1,346 (48%) males and 1,479 (52%) females. Most were 35-44 years old (34.0%) followed by 45-54 years old (27.4%). Nearly all were owners of rubber fields or hired harvesters. Essential hypertension was found in 19.2% of subjects and diabetes mellitus was found in 6.2%, while 25.9% were current or ex-smokers.

Prevalence of stroke

The prevalence of all types of stroke in this study was 2.21%. The prevalence was higher in males and it increased with age. The prevalence of stroke among these aged 35–44 year was 0.93% and rose to 6.52% among those aged more than 85. (Table 1)

Comparison of demographic data and risk factors between stroke and non-stroke subjects

Strokes were more prevalent in males than in females (60.3% vs. 39.7%). The mean age of subjects with stroke was 61.75 (S.D.=13.6) years. Among those with a history of stroke essential hypertension was found in 76.2%, diabetes mellitus in 22.2% and the prevalence of current or ex-smoking was 60.3%. Among the non-stroke group, the majority of subjects were female (52.3%), had a lower mean age (53.1 years, S.D.=12.7), a lower incidence of essential hypertension (17.8%), diabetes mellitus (5.9%), and also a lower rate of tobacco use (38%). Essential hypertension, age over fifty five years, history of tobacco use, and male gender were significant factors associated with stroke occurrence in multiple logistic regression analysis. (Table 2)

Correlation between age of stroke onset, duration of illness, level of dependency and depression

More than one-fifth of the stroke cases were severely dependent, requiring total care from their caregivers. The mean BI of all stroke patients was 10.13 (S.D.=2.8). Fifty two cases (72.5%) had depression after their strokes based on TGDS; and the prevalence of mild, moderate and severe depression were

Table 1 Prevalence of stroke stratified by age group and genders

Age group	Male (n=1,364)				Female (n=1,479)				Total (n=2,843)				
	N	Case	PR	95% CI	N	Case	PR	95% CI	N	Case	PR	95% CI	
35–44	489	6	1.23	0.25	2.21	4	0.84	0.02	1.65	968	10	1.03	0.39
45–54	345	5	1.45	0.18	2.72	4	0.92	0.02	1.82	780	9	1.15	0.40
55–64	256	12	4.69	2.08	7.29	7	2.73	0.72	4.75	512	19	3.71	2.07
65–74	175	9	5.14	1.84	8.45	5	2.96	0.38	5.54	344	14	4.07	1.97
75–84	83	5	6.02	0.80	11.25	4	3.48	0.08	6.88	193	9	4.55	1.62
85+	16	1	6.25	0.15	34.82	1	4.00	4.26	12.26	46	2	4.88	2.01
Total	1,364	38	2.79	1.91	3.66	25	1.69	1.03	2.35	2,843	63	2.22	1.67

PR = Prevalence rate (per 100 population)

42.9, 34.9% and 4.8% respectively. The mean depression score of all stroke patients was 18.33 (S.D.=4.87), which is considered to be mild to moderate post stroke depression.

There was a significant negative correlation between age of stroke onset, duration of illness, and level of dependency with severity of depression. (Table 3).

Table 2 Summary of risk factors for stroke

Variable	Stroke (%) (n=63)	Non-stroke (%) (n=2,780)	OR	95% CI		p-value
Gender			1.67	1.00	2.78	0.048
Male	38 (60.3)	1,326 (44.7)				
Female	25 (39.7)	1,454 (52.3)				
Age group (year)			2.94	1.61	5.38	<0.001
35-54	19 (30.2)	1,731 (62.3)				
55+	44 (69.8)	1,049 (37.7)				
Marital status			1.83	0.91	3.71	0.093
Married	52 (82.5)	2,438 (87.7)				
Single/widow/separated	11 (17.5)	342 (12.3)				
Smoking status			1.68	1.07	2.63	0.023
Never	25 (39.7)	1,723 (62.0)				
Former	38 (60.3)	1,057 (38.0)				
Hypertension			11.95	6.29	22.71	<0.001
No	15 (23.8)	2,284 (82.2)				
Yes	48 (76.2)	896 (17.8)				
Diabetes mellitus			1.91	0.96	3.83	0.067
No	49 (77.8)	2,617 (94.1)				
Yes	14 (22.2)	163 (5.9)				

Table 3 Correlation between age of onset, duration of illness, level of dependency and severity

Variables	Age	Duration of illness	Dependency	Depression
Age of onset	-	0.129	-0.108	-0.667(**)
Duration of illness		-	0.134	-0.757(**)
Dependency			-	-0.638(**)
Depression				

**p-value<0.01

Discussion

The prevalence of stroke in the current study was 2.21% and it increased with age. It was higher in males than females. These findings were comparable to previous epidemiological stroke surveys both nationwide and in southern Thailand.⁷ The prevalence of stroke in the over 65 year age group in our study was comparable to the prevalence in Nigeria and Spain (2.41% and 3.5%).^{12,13} It was lower than the prevalence of stroke in other developed countries such as Taiwan (5.08%)¹⁴, Singapore (7.67%)¹⁵ and Korea (7.7%).¹⁶ The limited skill in stroke case screening of the surveyors in the current study can be attributed.

Both the prevalence of essential hypertension and smoking were found notably high among the study subjects, compared to Thai population in the fourth national health survey.¹⁷ Therefore, a high incidence of stroke in Phatthalung province can be the result.

Essential Hypertension was the most significant stroke risk factor found in this study. It has been well established that the prevalence of stroke is directly correlated with to the level of systolic blood pressure.¹⁸ One study showed that each ten millimeters increase of systolic blood pressure increased the risk of stroke by a factor of 1.7 in females and 1.9 in males, respectively.¹⁹

Smoking was another potential risk factor for stroke. In an epidemiological study, smokers had a higher risk of stroke than non-smokers.²⁰ However, the smokers who had ceased smoking for more than five years had the equal risk of ischemic stroke to the non-smokers.^{21,22}

The prevalence of post stroke depression in this study was 72.5%; in which 4.8% of stroke victims being severely depressed. Previous studies have reported a lower incidence of post stroke depression (46-61%).^{23,24} The difference in the socio-economic status, support from the patients' relatives or caregivers and the patients' psychological background may have contributed to this difference in incidence. However, this finding should alert health care workers and emphasize the high possibility of concurrent depression among post stroke victims. It was also found that young onset, recent stroke patients and low levels of dependency had a higher score of depression.²⁵

Conclusion

The current study showed a higher prevalence of stroke in this selected community in comparison to the overall prevalence in Thailand. The significant risk factors of stroke in this study were similar to previous studies both in Thailand and worldwide. Essential hypertension and smoking were major, but modifiable, risk factors in the current study. Mass population screening with early control of essential hypertension should be firmly advocated in the primary health care service. Public campaign against smoking should be promoted as well. Post stroke depression was also significantly high among stroke cases, but it is usually less emphasized in post stroke care. This may have significant negative impact on quality of life after a stroke. Early and appropriate interventions for managing post stroke depression are needed for a holistic stroke care in the community.

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