



Da Nang Department of Health

Stroke in Viet Nam: Stroke Registry and Community-Based Surveillance

Brain Disorders in the Developing World: Research Across the Lifespan
2012 Networking Meeting
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Acknowledgments

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Stroke in Vietnam

- Stroke will kill about 10% of the world's population of 6.5 billion people and leave millions of others disabled (Lancet 2007)
- Cerebrovascular diseases = highest in number of DALY's in the developing world (WHO 2006)
- In Viet Nam: Stroke = #1 Cause of Death (20-27%) (Minh 2003, Scand J Pub Health; Hoang 2006, Prev Chron Dis)
- Prevalence of Key Risk Factors High
 - Smoking, hypertension, sodium intake

Evaluate stroke and its risk factors in Da Nang 2 Projects

- Designed and conducted a **household survey** to evaluate risk factors of stroke: approx. 883 households – 1621 participants 35 yrs and older
- Develop a **stroke registry** patients hospitalized in Da Nang Hospital over one year, N=773
- Develop infrastructure and capacity building to allow independent stroke research and care to be carried out in Viet Nam

Building Capacity

- Established a local **Advisory Committee** to provide guidance on methodological approaches for the study.
- Organized **training courses** to enhance capacity for local health staff in stroke care and research methods.
- **Provided six 3-4 day courses:** Clinical Stroke, Imaging, Epidemiology, EpilInfo, Field Data Collection, Stroke Registry Training.
- Organized **meetings between experts** from the UW and local staff to exchange ideas on establishing a better stroke care system/ unit at Da Nang hospital.
- Provided **equipment** (computers, projector, books) to Da Nang Hospital and DN Health Staff Training Center to facilitate research.

TRẠM Y TẾ

PHƯỜNG TÂN CHÍNH

ĐT: 0511.830026 - 241948

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LỊCH TIÊM CHỦNG

I. TRẺ EM

THỜI GIAN TIÊM	LOẠI VACCINE
1. SỐ SINH 1 THÁNG	- Lao (BCG) - Viêm Gan Siêu Vi B Lần 1
2. HAI THÁNG TUỔI	- B Rêu - H Gà - U Văn Lần 1 - Viêm Gan Siêu Vi B Lần 2
3. BA THÁNG TUỔI	- Bạch Lũy - Bạch Huyết
4. BỐN THÁNG TUỔI	- Viêm - Bạch Lũy
5. CHÍN THÁNG TUỔI	- Sởi

II. PHỤ NỮ MANG THAI
III. THỜI GIAN TIÊM
KẾ CẢ TH



LỊCH TIÊM CHỦNG
CÁC VACCINE

TIÊM CHỦNG PHÒNG NGỪA CHỨNG ĐỀ TÀI



ƯỚC CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM MUÔN NĂM



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H. HOANG SA



NUỐC CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM MUÔN NĂM

BỆNH VIỆN ĐÀ NẴNG

LỚP TẬP HUẤN CHUYÊN ĐỀ ĐỘT QUY

ĐẠI HỌC WASHINGTON

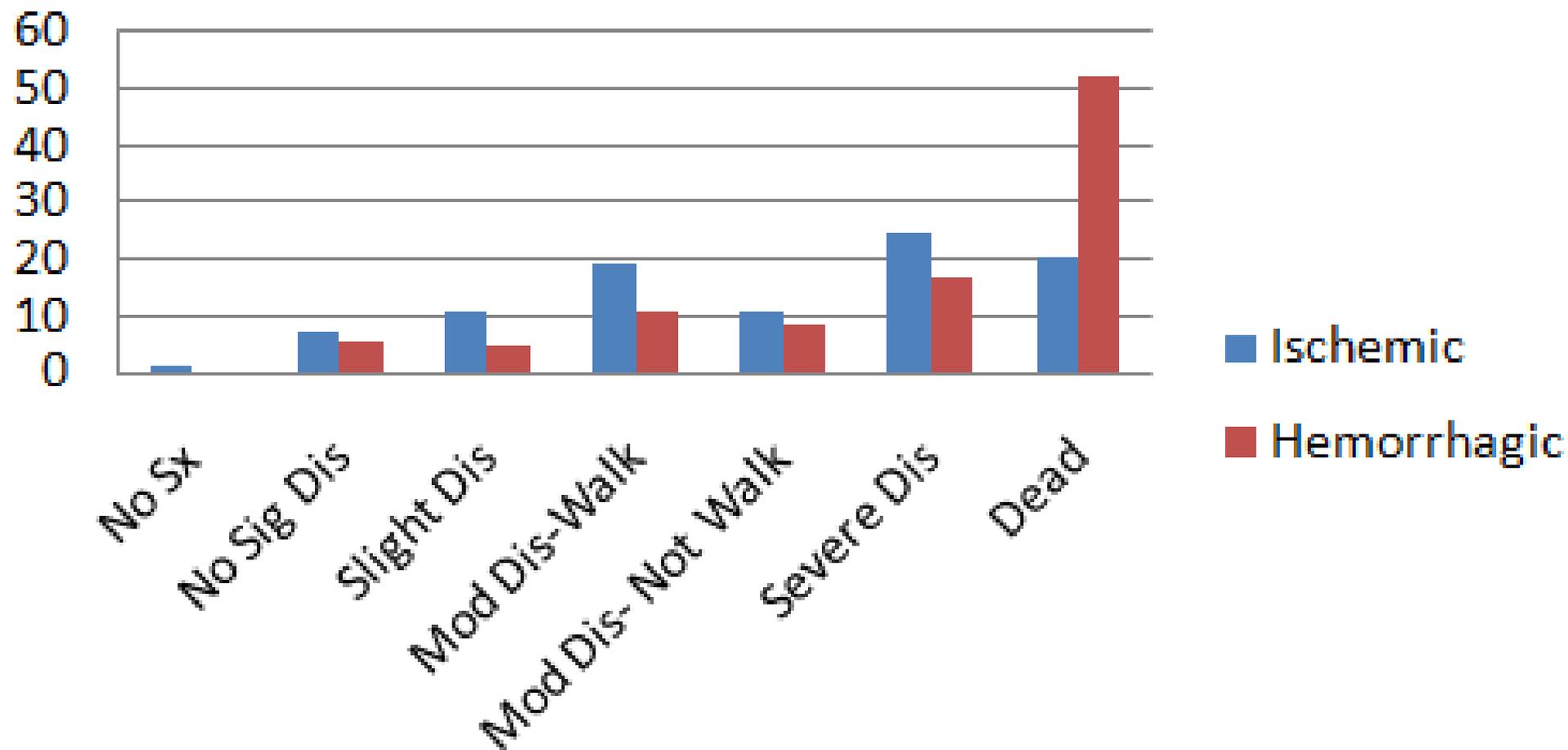
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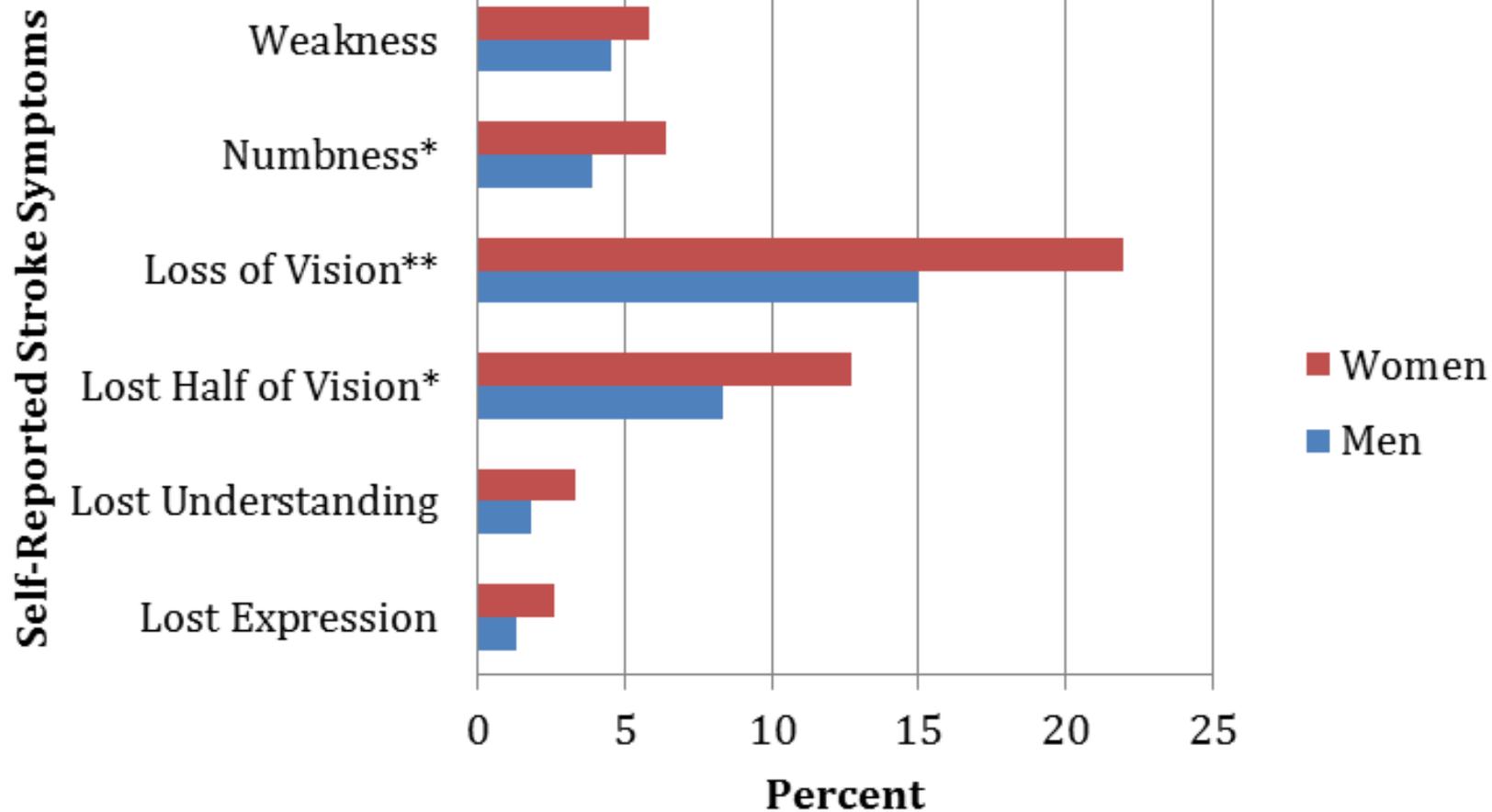
Unaware of Hypertension

Self-Reported HTN	Measured HTN						
	No (N=1177)		Yes (N=443)		Total (N=1620)		p
	n	%	n	%	n	%	
No	108 5	92.3	302	68.2	138 7	85.7	<0.001
Yes	91	7.7	141	31.8	232	14.3	

Modified Rankin Scale (%): Day 28



Self-Reported Stroke Symptoms



* $p < .05$
** $p < .001$

Short Physical Performance Battery

1.

Balance Tests



Side-by-Side Stand
Feet together side-by-side for 10 sec

< 10 sec (0 pt)

Go to 4-Meter
Gait Speed Test

10 sec (1 pt)



Semi-Tandem Stand
Heel of one foot against side of big toe of the other for 10 sec

< 10 sec (+0 pt)

Go to 4-Meter
Gait Speed Test

10 sec (+1 pt)



Tandem Stand
Feet aligned heel to toe for 10 sec

10 sec (+2 pt)
3-9.99 sec (+1 pt)
<3 sec (+0 pt)

2.

Gait Speed Test

Measures the time required to walk
4 meters at a normal pace (use best of 2 times)

<4.82 sec 4 pt
4.82-6.20 sec 3 pt
6.21-8.70 sec 2 pt
>8.7 sec 1 pt
Unable 0 pt



3.

Chair Stand Test

Pre-test
Participants fold their arms across their chest
and try to stand up once from a chair

unable → Stop (0 pt)

able

5 repeats
Measures the time required to perform five rises
from a chair to an upright position as fast as
possible without the use of the arms



≤11.19 sec 4 pt
11.20-13.69 sec 3 pt
13.70-16.69 sec 2 pt
>16.7 sec 1 pt
>60 sec or unable 0 pt

Associations between Stress and Self-Reported Stroke Symptoms

		UNADJUSTED			ADJUSTED *		
		Stress symptoms	odds ratio (95% CI)	p-value	stress symptoms	odds ratio (95% CI)	p-value
Hypertension	no symptoms	1.0 (reference)	...		no symptoms	1.0 (reference)	...
	1-2 symptoms	0.86 (0.69-1.08)	0.2		1-2 symptoms	1.43 (1.02-2.01)	0.39
	3-5 symptoms	0.92 (0.68-1.25)	0.58		3-5 symptoms	3.06 (1.80- 5.19)	<0.001
Stroke Symptoms	no symptoms	1.0 (reference)	...		no symptoms	1.0 (reference)	...
	1-2 symptoms	2.97 (1.89- 4.68)	<0.001		1-2 symptoms	3.32 (2.04-5.40)	<0.001
	3-5 symptoms	7.83 (4.88-12.55)	<0.001		3-5 symptoms	8.58 (4.69-15.68)	<0.001

*adjusted for age, gender, education, family size, region, fruit/vegetable intake, smoking and BMI

Associations between Self-Reported Stroke Symptoms and Gait / Balance

	Unadjusted OR (95% CI)	P values	Adjusted OR (95% CI)*	P values
Gait at usual pace	1.23 (1.14, 1.32)	<0.001	1.07 (0.98, 1.17)	0.16
Gait at fast pace	1.27 (1.16, 1.38)	<0.001	1.10 (1.00, 1.21)	0.055
Balance Tests				
Side by side	8.49 (3.60, 19.98)	<0.001	6.11 (2.03, 18.37)	0.001
Semi-tandem	3.93 (1.78, 8.65)	0.001	2.79 (1.06, 7.30)	0.037
Tandem	5.06 (2.33, 11.03)	<0.001	3.88 (1.48, 10.18)	0.006
Chair stands	1.23 (1.16, 1.31)	<0.001	1.10 (1.03, 1.18)	0.006

*adjusted for age, gender, education, nutrition, exercise, stress, and smoking

SUCCESSSES

- Positive relationship with MOH and colleagues
- Developed methods for selecting and recruiting participants
- Training of community health workers for research
- Generated great interest in research via short-term training courses
- MOH very supportive for continued work
- High productivity of project: data collected and publications

CHALLENGES

- Transfer of funds for work done
- Assuring appropriate persons receive payments
- Lack of neurologists in Da Nang
- For expansion of study, lack of trust between north and south of Viet Nam
- Collected blood spots but not enough funding to analyze
- Clinical responsibilities of collaborators very high, limited ability to come to US for training
- R01 not funded, need to develop new strategy



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THANK YOU FOR YOUR ATTENTION

Are there any questions?