Longitudinal study on Aging and Health in Vietnam 2018

Main Findings from the Baseline Survey

Funding by ERIA

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Background

- Vietnam's population is aging rapidly.
- Vietnam's population officially entered the aging process in 2017(UNFPA)
- There is little information on the elderly and their health in Vietnam: there was a survey of the elderly (VNAS2011) which studied 4,000 people in 12 provinces of Vietnam.
- There is very little data on health care and care for the elderly in Vietnam especially dementia, insomnia, muscle mass and mortality rate as well as other biometric indicators such as height, weight, blood pressure.
- We do not know the factors related to the quality of life of the elderly and what determines their quality of life in Vietnam..
- There is no longitudinal survey of the elderly in Vietnam.

The purpose of LSAHV in Vietnam

1) Describe the health status of the elderly in Vietnam
2) Learn about the health issues related to elderly health in Vietnam
3) Understand the changes in the health status of the elderly conducted in this study and cross-sectional studies conducted in Vietnam.
4) Learn about changes in the health status of the elderly through longitudinal research in Vietnam
5) Learn about the potential factors that determine changes in the health status of the elderly in Vietnam
6) Estimates of health expectations by gender, place of residence (urban / rural), education to understand inequalities among older population groups in Vietnam

Research Team

- **Research team**
  1. Lead PI: Prof. Yasuhiko Saito PhD, Nihon University, Japan
  2. Co-PI: Osuke Komazawa MD, Southeast Asia and East Asia Economic Research Institute, Jakarta, Indonesia
  3. Local PI in Vietnam : Vu Cong Nguyen, MD, MPH, Institute of Population, Health and Development, Vietnam
- **Partners**
  1. Department of Population and Labor Statistics, General Statistics Office
  2. Center for Population Research, Information and Databases, GoPFP
  3. Departments of Health, Department of PFP, College of Medicine, Institute of Public Health of 10 provinces: Hanoi, Ho Chi Minh City, Quang Ninh, Lang Son, Nghe An, Quang Ngai, Dak Lak, Dong Nai, Hau Giang, Tra Vinh.

Previous study of elderly people

- Vietnam Aging Survey 2011 (VNAS2011)
  - The nationally representative sample for groups 50yrs old and older
  - A total of 4,007 people were selected, in 12 provinces and 200 communes
  - ISMS and Vietnam Women's Union with funding from the VIE022 project, funded by UNFPA and AP
  - Using the questionnaire, do not take any measurements of health indicators

Research Methods

- **Study design:** cluster, multistage sampling, using PPS
  - The baseline survey in 2018 (sample size of 6,050 people 60+):
    1. Household questionnaire
    2. The main question for elderly
    3. Anthropometric questionnaire: Blood pressure, BMI, muscle, fat, peak flow, grip strength….
    4. Caregiver questionnaire
    5. Child questionnaire

Follow up survey 2020 (return to home of 6,050 and redo the survey with some additional question if death found)

Sampling method: multistate cluster sampling and PPS

Sample design: Dr. Vu Thi Thu Thuy, Deputy Director of Department of Population and Labor Statistics, GSO,

- Estimated sample size :

$$n = \frac{(z_{1-\alpha/2})^2 * P * (1-P) * deff}{d^2 * R}$$

Of which: n: sample size (over 60yrs old)

$z_{1-\alpha/2}$: Z value of confidence interval; 95%. $Z_{0,025}$ = 1,96

P: prevalence of diseases

deff: design effect to sample

d: absolute precision required

R: Response rate

- Previous research on the elderly shows that the proportion of people over 60 with health problems is 0.711 and with 95% confidence and 5% absolute precision required, 95% response rate, effective, deff is 2.2112, the sample size needed for each region in Vietnam is 735 people over 60 years old.
- Therefore, the total sample size for 6 ecological regions and Hanoi and HCMC will be 735 x 8 = 5,880

Sampling method *(cont.)*

Sampling strategy: Multi stages sampling

- Stage 1: select provinces: Hanoi and Ho Chi Minh are two special regions and preselected; the rest of Vietnam were divided into 6 eco-regions. Within the eco-region, using PPS, based on total 60+ population, to randomly select one province in the list of the provinces of the region. The bigger population of the province, the bigger chance to be selected.
- Stage 2: select secondary sampling unit: in this research, village was used as the primary sampling unit and total 654 villages were selected in the sample; and total village was allocated to each province based on PPS. GSO provided 2018 list of all villages in the selected provinces with population of each village and GSO statistician selected villages using PPS.
- Stage 3: from the list of selected village, GoPFP provided list of all 60+ population of each villages; select survey participants: People 80+ were ever sample compare to 60-69 and 70-79.
- Stage 4: from the list of 60+ population in the selected village provided by GoPFP, PHAD researchers sort into three sub-group 60-69, 70-79 and 80+ and using computerized program randomly selects total of 9 of them using the 4:3:2 ratio; in Hanoi and Ho Chi Minh City 10 of them using the ration 5:3:2.

Data collection procedures

- PHAD IRB approval
- Data collector: Medical staff of each province (Department of Health, Sub-Department of Population or officials of the local Medical College / Institute), 2 days training.
- Informed consents: OP, measurement, child and care giver (sign in table)
- Data collection using table, RedCap program
- Data transferred to PHAD server at the end of the day using wifi or 3G / 4G
- Daily Check by PHAD supervisors

Questionnaires

There are 5 questionnaires:

1. Household questionnaire
2. The main question for elderly
3. Anthropometric questionnaire
4. Caregiver questionnaire
5. Child questionnaire

Household questionnaire

- Collect information about household structure, member characteristics and household assets
- Respondents are the head of household, or 1 adult in the family

Main questionnaire for elderly

- Short Portable Mental Status Questionnaire (SPMSQ)
- Socio-economic and demographic characteristics
- Health status
- Physical ability and disability
- Mental health
- Health utilization
- Income and assets
- Attitudes and beliefs
- Activities, social network, and use of information technology
- Services for the elderly
- Children and grandchildren

Primary or potential caregiver

- Information on the prevalence and nature of caregiving for older person
- Relationship of caregiver to care recipient
- Preparations for caregiving roles
- Caregiver activities
- Number of hours allotted for caregiving work
- Wellbeing of caregivers
- Support network and intervention programs to caregivers of older persons

Child questionnaire

- Interview of one adult child of OP (with consent from both the OP and the child respondent)
- Parent-child dyad:
  - nature of intergenerational relationship, support provision, and expectation regarding filial piety

Caregiver and child of the elderly

- Information about changes in the health of the elderly
- Information about the elderly to make sure you can be contacted the next time
- Some basic characteristics of caregivers and views on the health status of caregivers and elderly people’s children

Anthropometric Questionnaire

Anthropometric

- Height (cm)
- Weight (kg, Tanita electric scale)
- Body mass index (BMI)
- Waist circumference (cm, tap measure
- Blood pressure (Japan machine)
- Count original teeth
- Inner body scan (Tanita electric scale)

Function

- Grip strength (kg)
- Peak flow (ml)
- Gait speed (walk 5m)
- Functional reach (cm)
- Balance test (15 seconds)

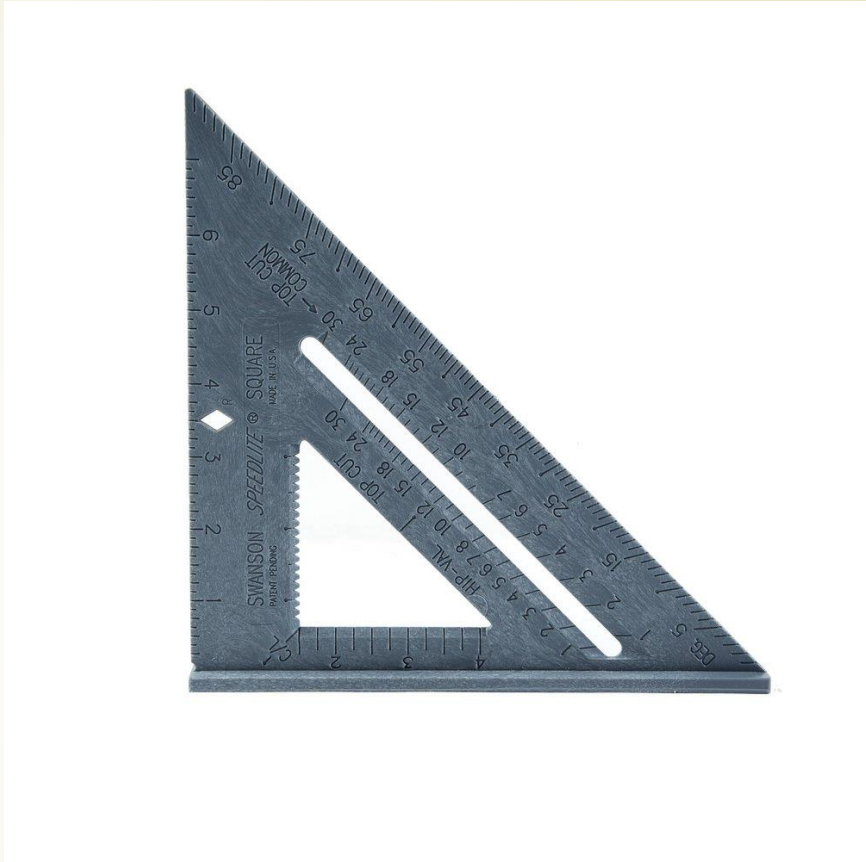
Measurement Tools (36 sets)

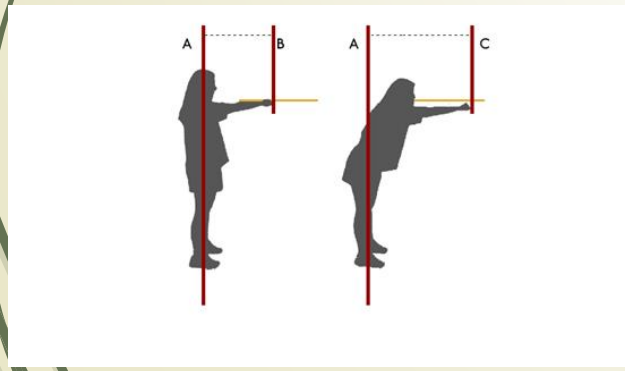
Tanita BC-601
Inner-scan for
Segmental analysis

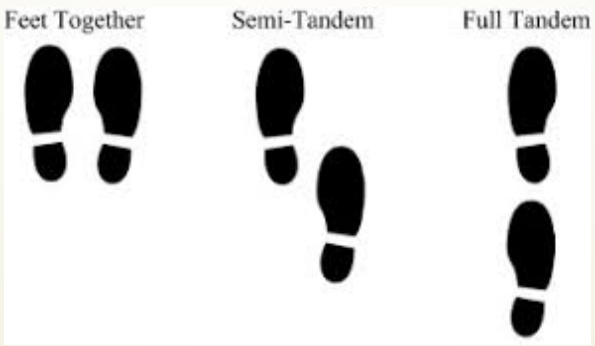
Tanita Handgrip 6103

Tools *(cont.)*

Mini Wright – peak flow CE0120







Data collection tools and software

- Lenovo tablet
- Viettel 4G sim card
- Internal memory 16Gb
- Battery: running continuously for 8 hours if 4G is not enabled (only enabled when transmitting data to the server)
- Software: Using RedCap (due to online data collection support and longitudinal design support)

Training

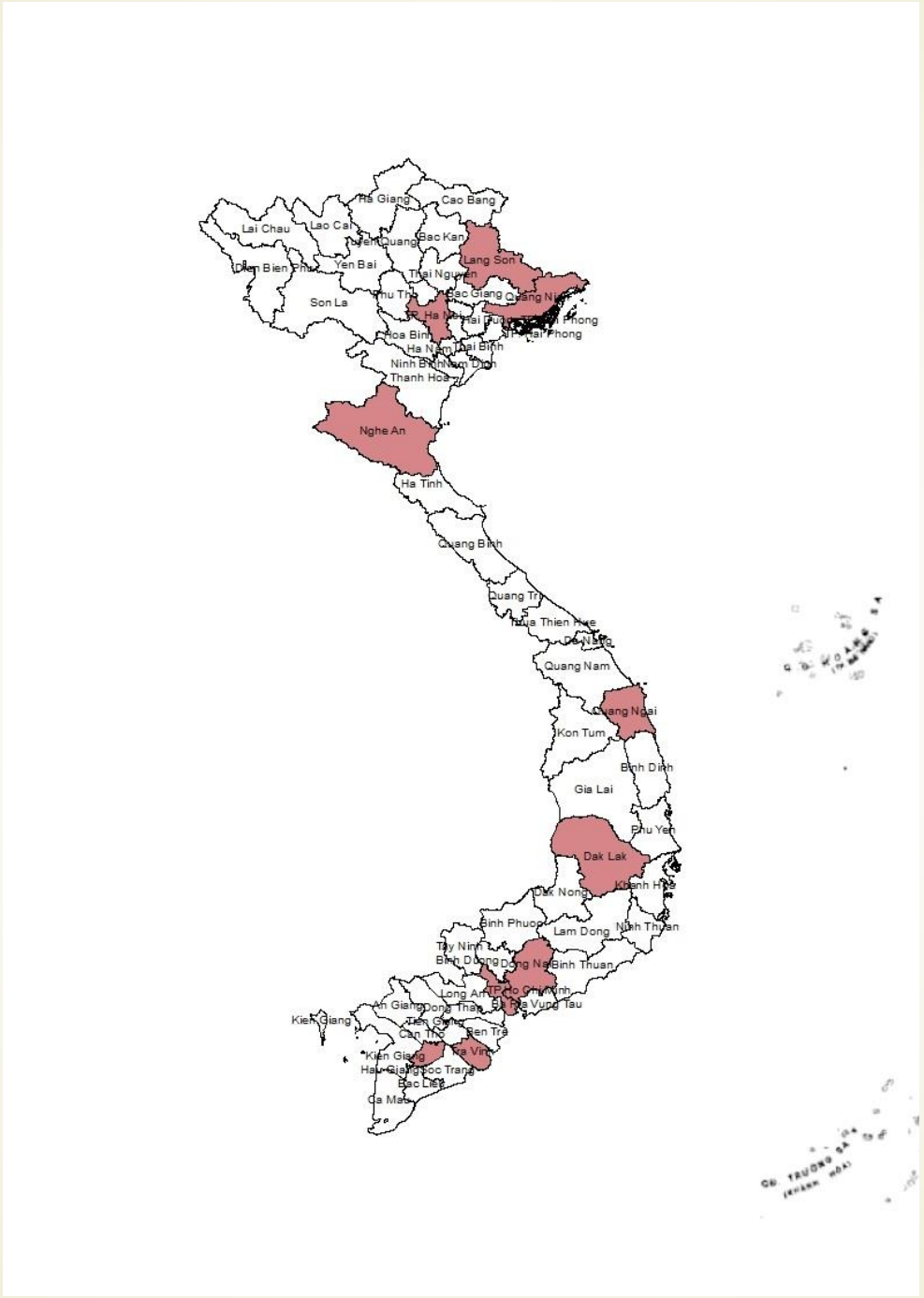
In all provinces, all data collectors participated in 2 days training from 8 am to 5 pm:

- Practice proficiency in the use of measuring tools and techniques
- Practice the questionnaire in class
- Practice interview from the beginning to the end of the question
- Practice transmitting data to the server
- Answering the questions during the practice
- Set up Zalo Chat Group to answer questions and provide support in the field
- Field planning and assigning people in charge of equipment bags

Final sample size

- **Study sample size (working with GSO and GOPFP)**

No	The provincial	Region	Total population	Sample size	No. of districts	No. of villages	Sample size in each village	Sample size for each age group		
								60-69	70-79	80+
				6,050		654				
1	Lạng Sơn	Northern highland and mountain region	775.979	**666**	11	74	9	4	3	2
2	Quảng Ninh	Red River Delta Region	1.239.411	**891**	15	99	9	4	3	2
3	Nghệ An	North Central and Central Coastal Region	3.124.828	**684**	20	76	9	4	3	2
4	Quảng Ngãi		1.259.754	**306**	10	34	9	4	3	2
5	Đắk Lắk	Central Highland	1.891.024	**414**	15	46	9	4	3	2
6	Đồng Nai	South East Region	3.010.790	**540**	11	60	9	4	3	2
7	Trà Vinh	Mekong Delta Region	1.044.287	**522**	8	58	9	4	3	2
8	Hậu Giang		774.103	**387**	7	43	9	4	3	2
9	Hà Nội		7.392.624	**820**	30	82	10	5	3	2
10	Hồ Chí Minh		8.404.905	**820**	24	82	10	5	3	2


Ha Giang
Cao Bang
Lai Chau
Lao Cai
Bac Kan
Tuyen Quang
Lang Son
Dien Bien Phu
Yen Bai
Thai Nguyen
Son La
Phu Tho
Bac Giang
Quang Ninh
Ha Noi
Hai Duong
Hai Phong
Hoa Binh
Thai Binh
Ha Nam
Nam Dinh
Ninh Binh
Thanh Hoa
Nghe An
Ha Tinh
Quang Binh
Quang Tri
Thua Thien Hue
Da Nang
Quang Nam
Quang Ngai
Kon Tum
Binh Dinh
Gia Lai
Phu Yen
Dak Lak
Khanh Hoa
Dak Nong
Binh Phuoc
Lam Dong
Ninh Thuan
Tay Ninh
Binh Duong
Dong Nai
Binh Thuan
Long An
TP. Ho Chi Minh
Ba Ria Vung Tau
An Giang
Dong Thap
Tien Giang
Kien Giang
Can Tho
Ben Tre
Tra Vinh
Hau Giang
Soc Trang
Bac Lieu
Ca Mau

Summary of interviews conducted

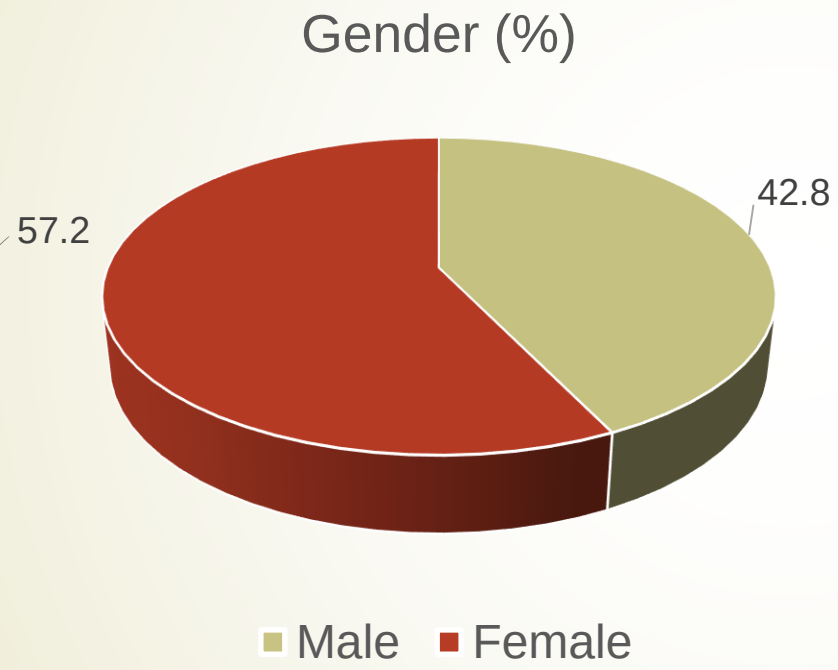
- Data collection from 1/12/2018 to 31/5/2019 in 10 provinces
- Total number of elderly people: 6,050
- Response rate: 95.8%; Total rejections and replacements 257 (4.24%)
- SPMSQ – 696 failed (11.5%)
- Number of caregivers interviewed : 3,193 (52. 8%)
- Number of children interviewed : 2,498 (45.3%)
- Anthropometric: 5,782 (95.6%)
- Body's internal index (Inner body scan): 5,347 (88.4%)

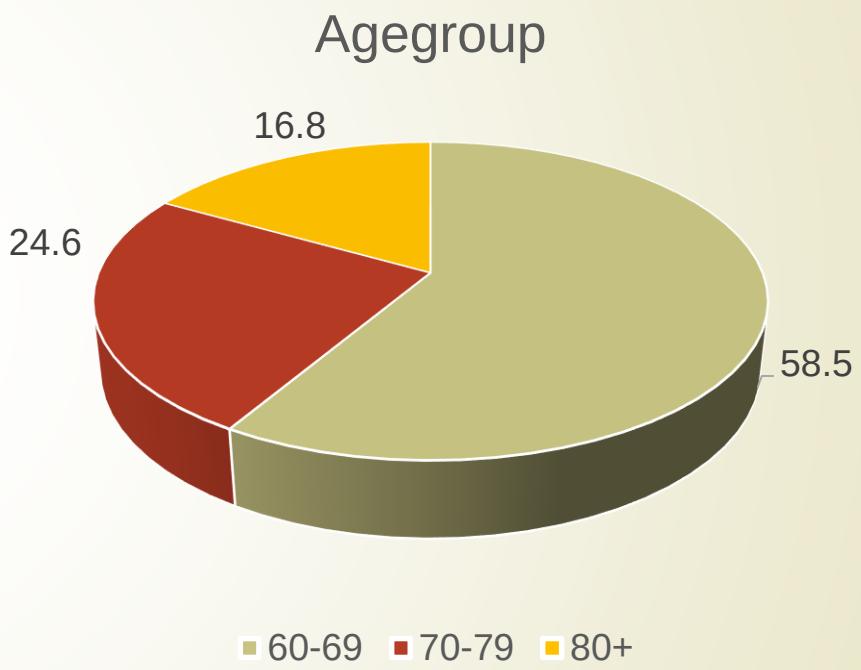
Weighting

- Design weighting/Sample weighting was used to adjust the weight of each individual in the survey.
- Design weight is a reverse of sampling probability or 1/Sampling probability.
- Because we use three step sampling, we need to adjust three weights, one for each step.
- The formula to compute the final weight is $D_Weight=(W_1 * W_2 * W_3)$

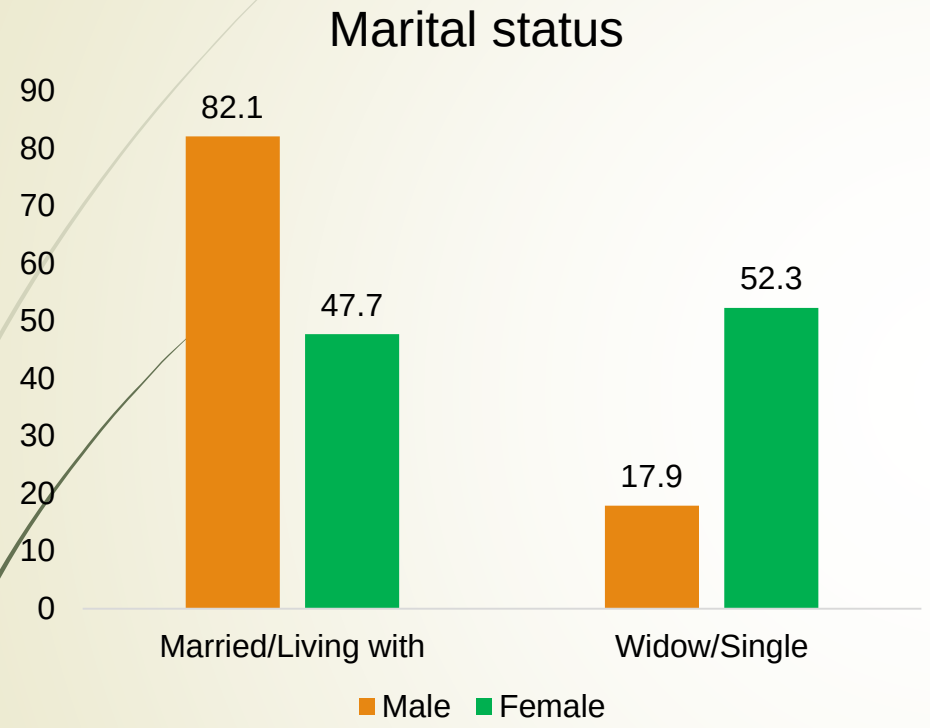
W1 (weighting for province selection in region i)	W2: weighting of village selected in the province	W3: weighting of a person selected in the sample
$W_1 = P_i /(n * Pt_i)$ Pi = Population 60+ of region i Pti: Population of province t, region I N: Number of province selected/assigned of region I	$W_2 = p_j/(nj * Pd_j)$ Pj: Population of province j in region I Pdj: population of village d in province j Nj: total village selected	W_3= pgd / (Ngd * Rd) Pgd: population of agegroup g of the village d Ng: total selected people of the agegroup of village d R: respondent rate

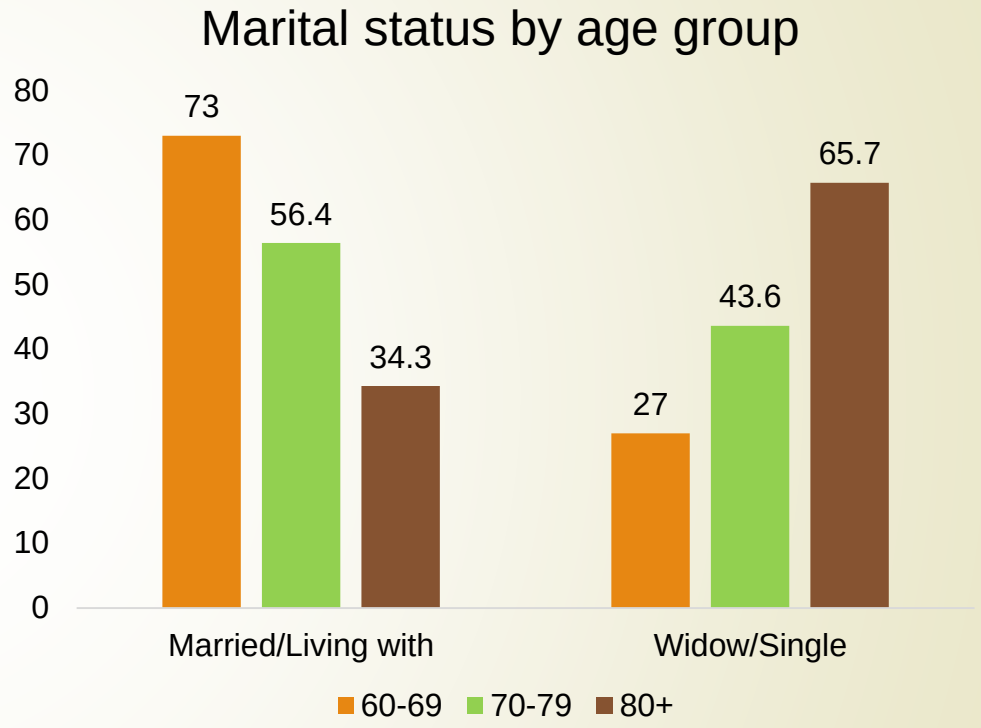
Initial results (weighted) - General characteristics





General characteristics *(cont.)*



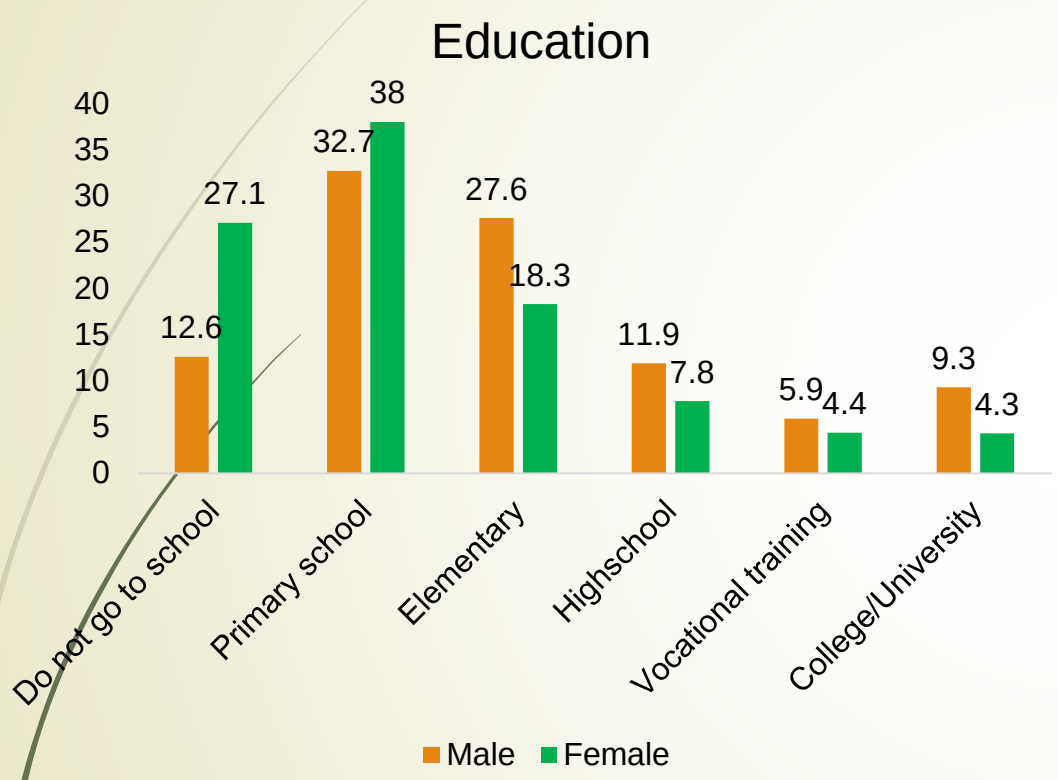


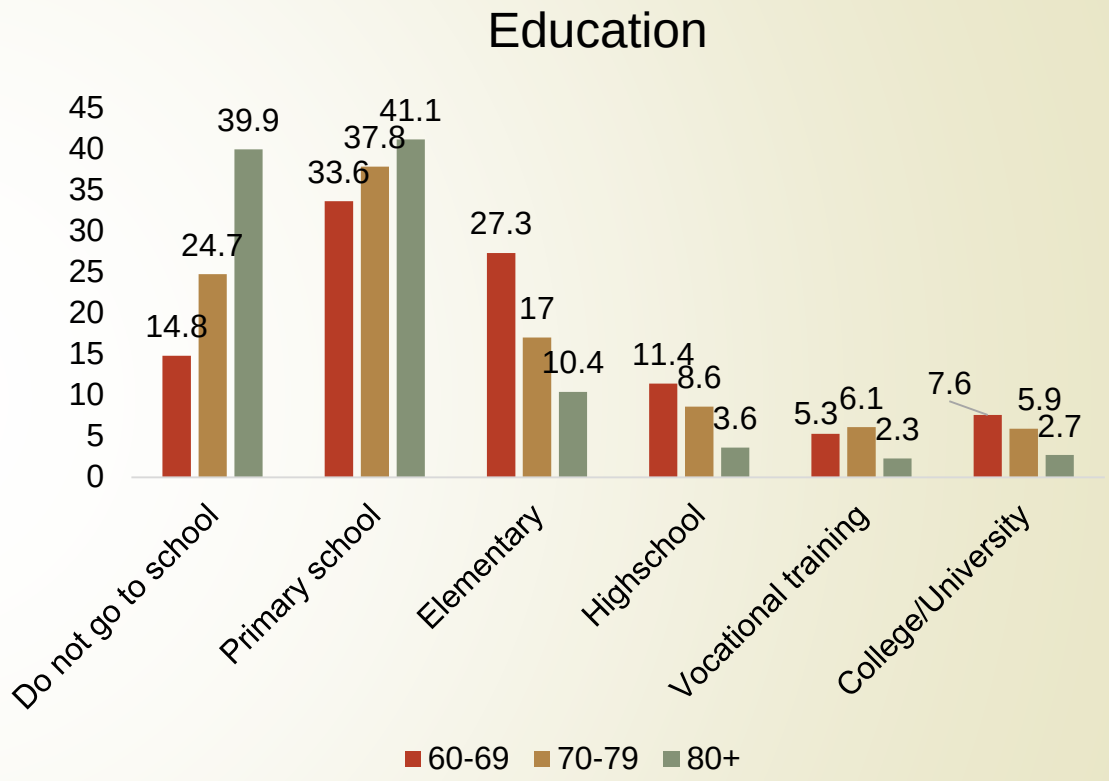
p<0.01

N=6,050

p<0.05

General characteristics *(cont.)*





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N=6,050

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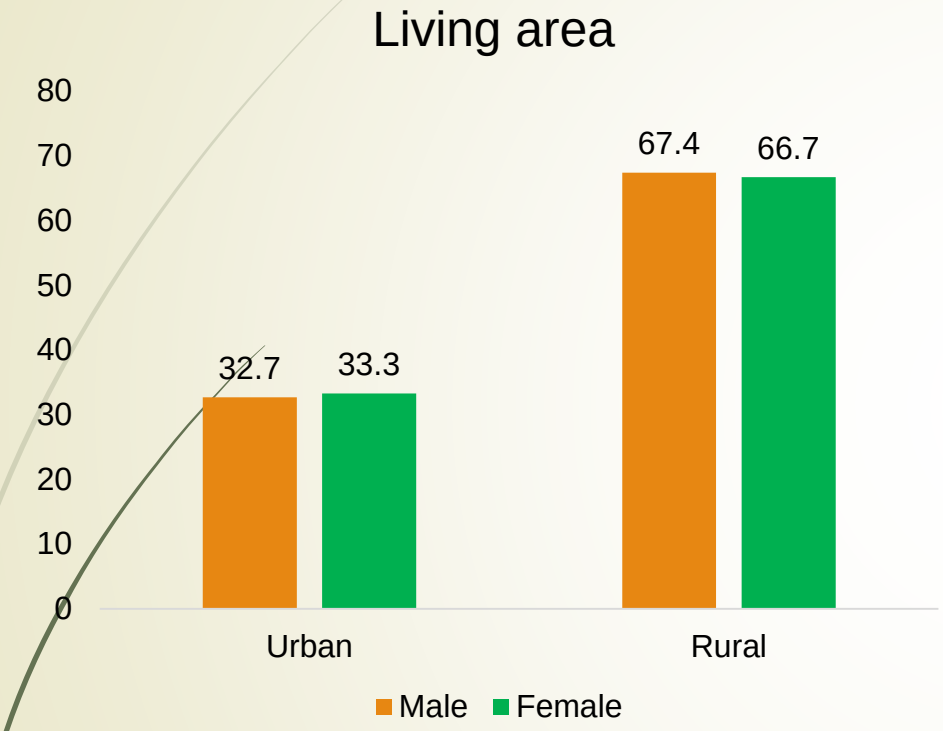
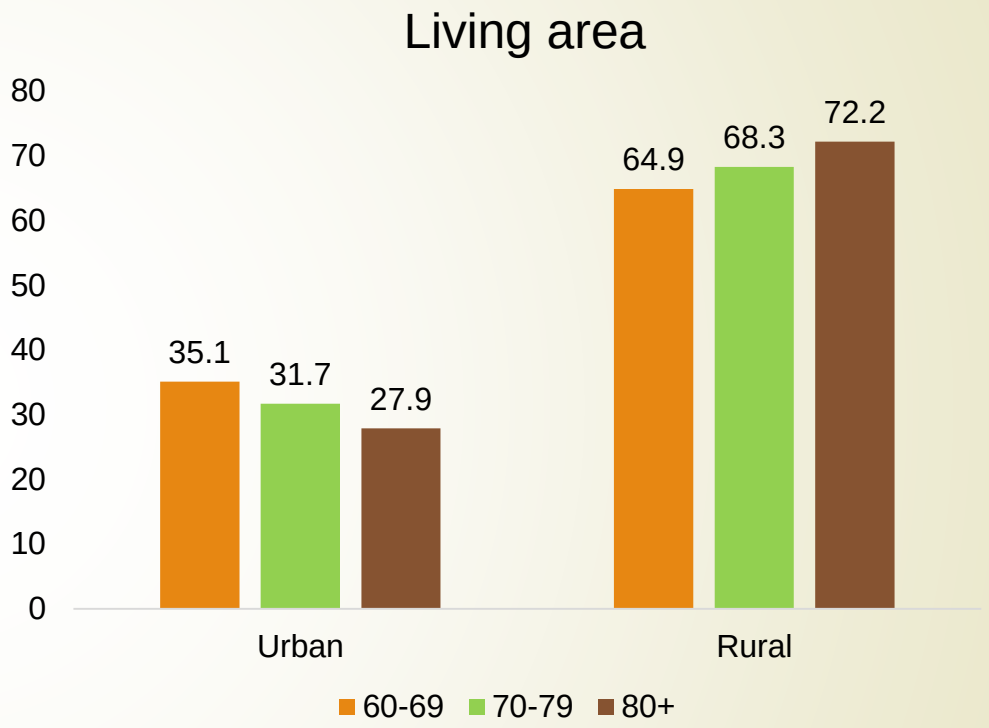
General characteristics *(cont.)*





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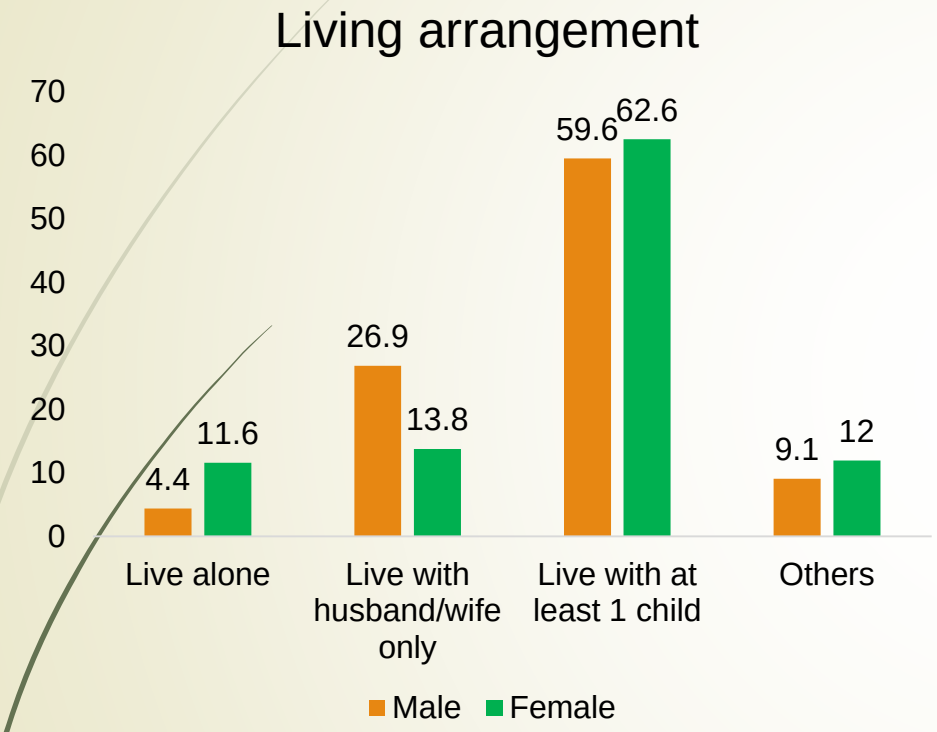
General characteristics *(cont.)*



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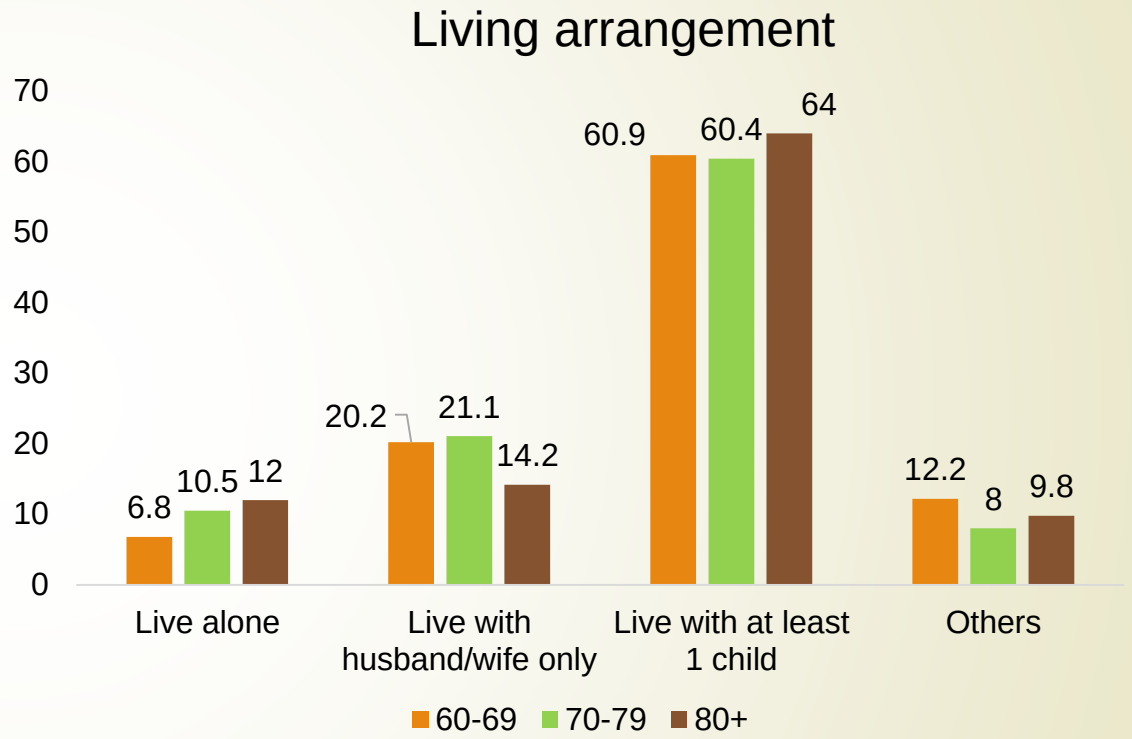

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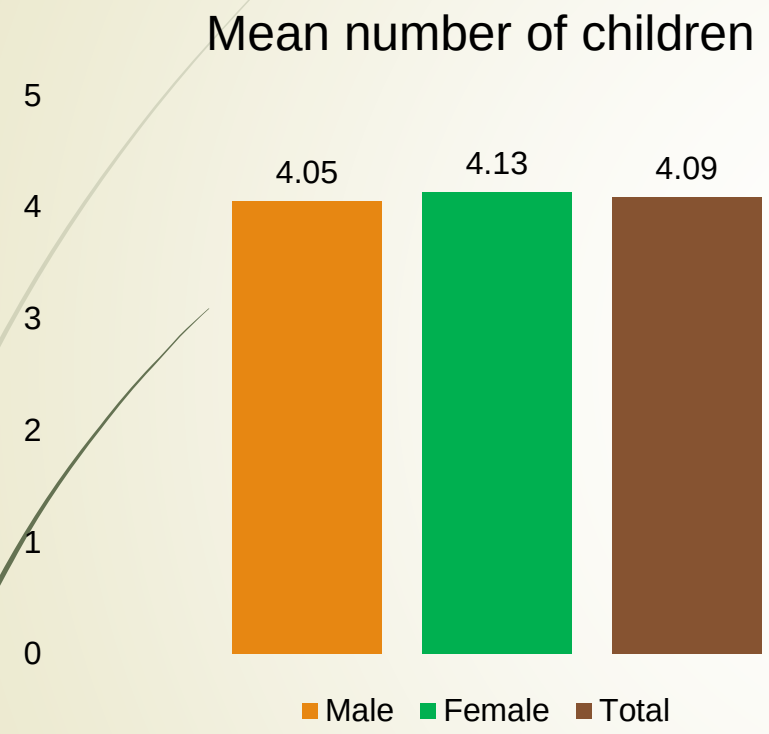
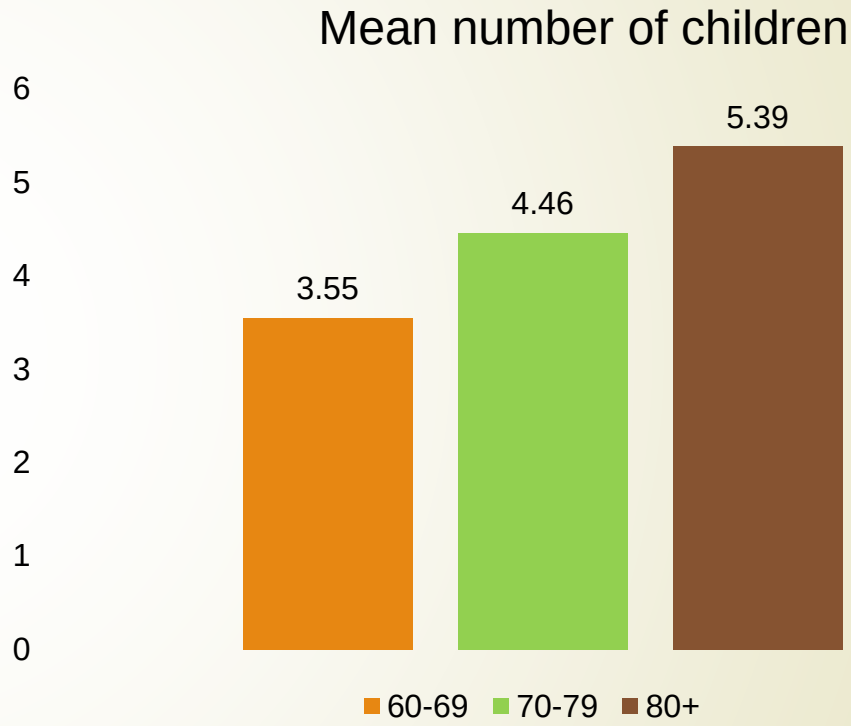
General characteristics *(cont.)*





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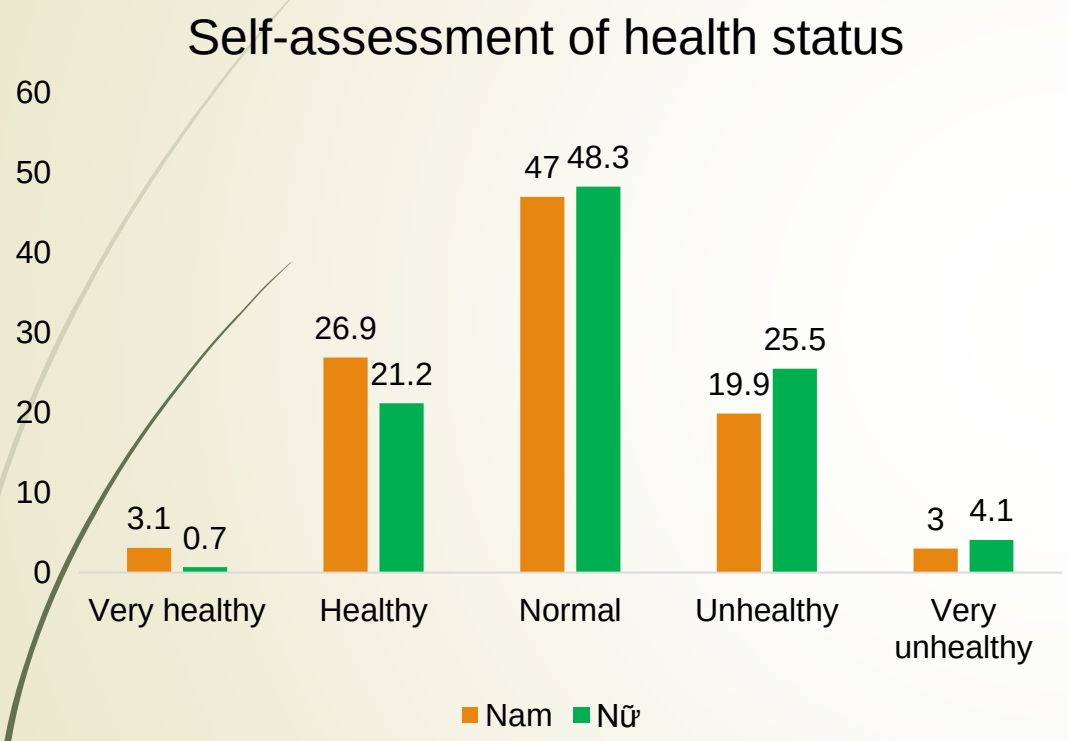
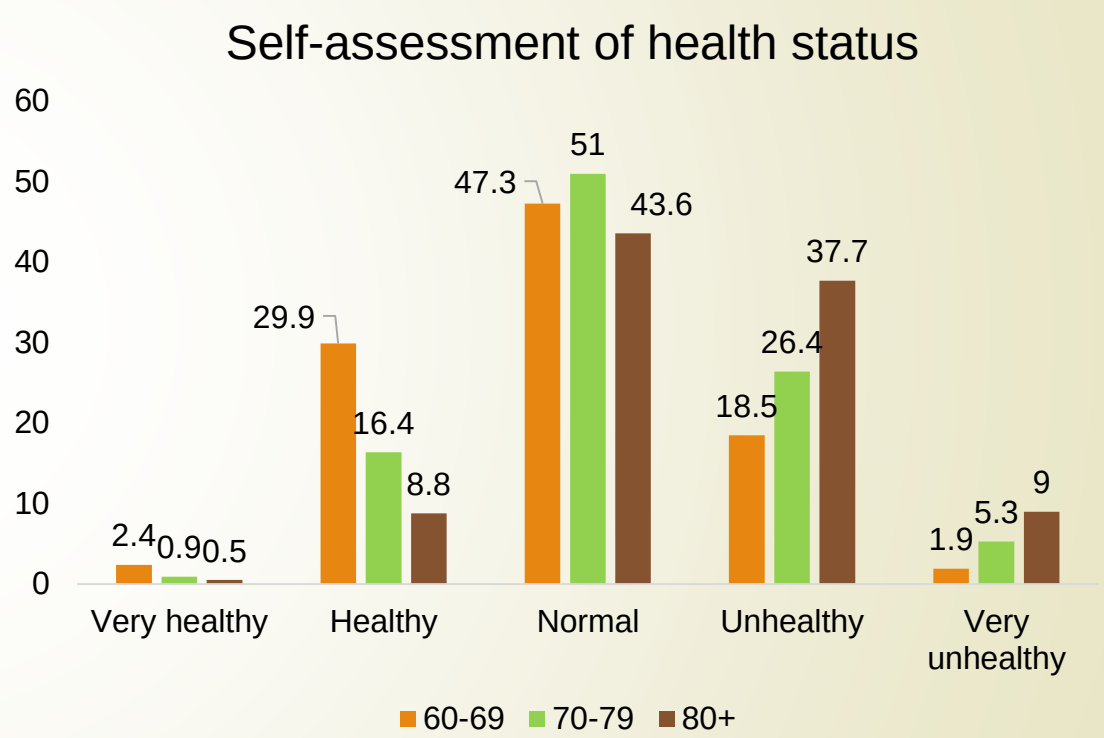
N=6,050

Health status of elderly people in Vietnam





N=6,050

LONGITUDINAL STUDY OF AGING AND HEALTH IN VIETNAM (LSAHV)

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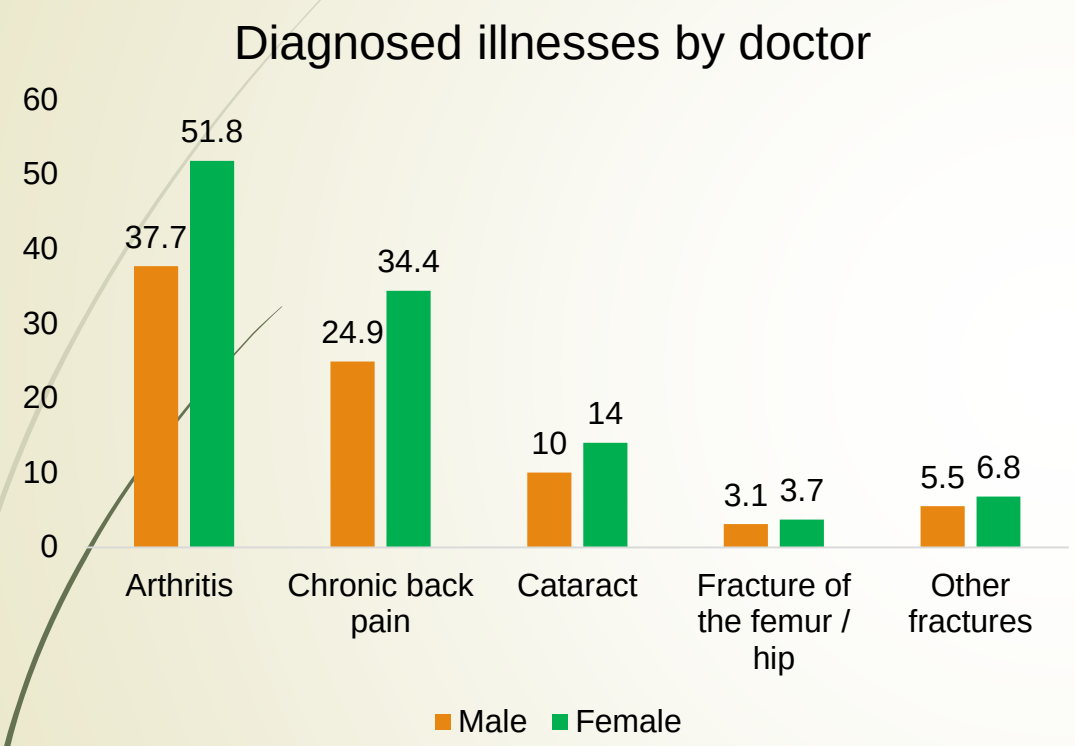
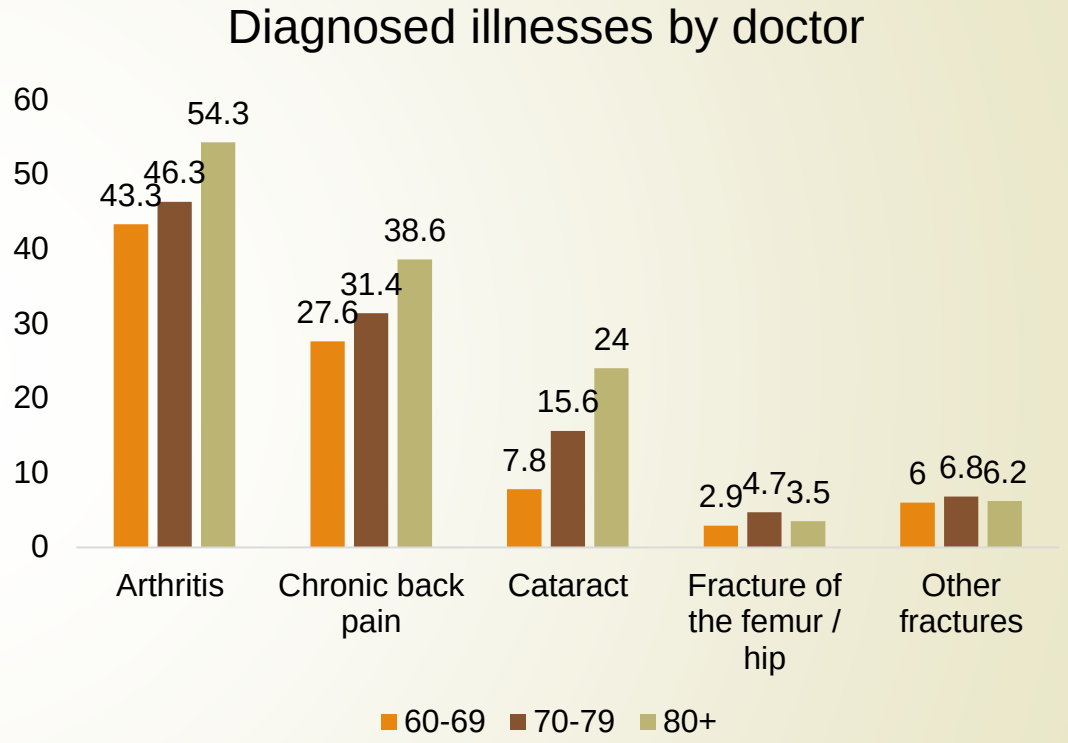
Health status of elderly people in Vietnam *(cont.)*





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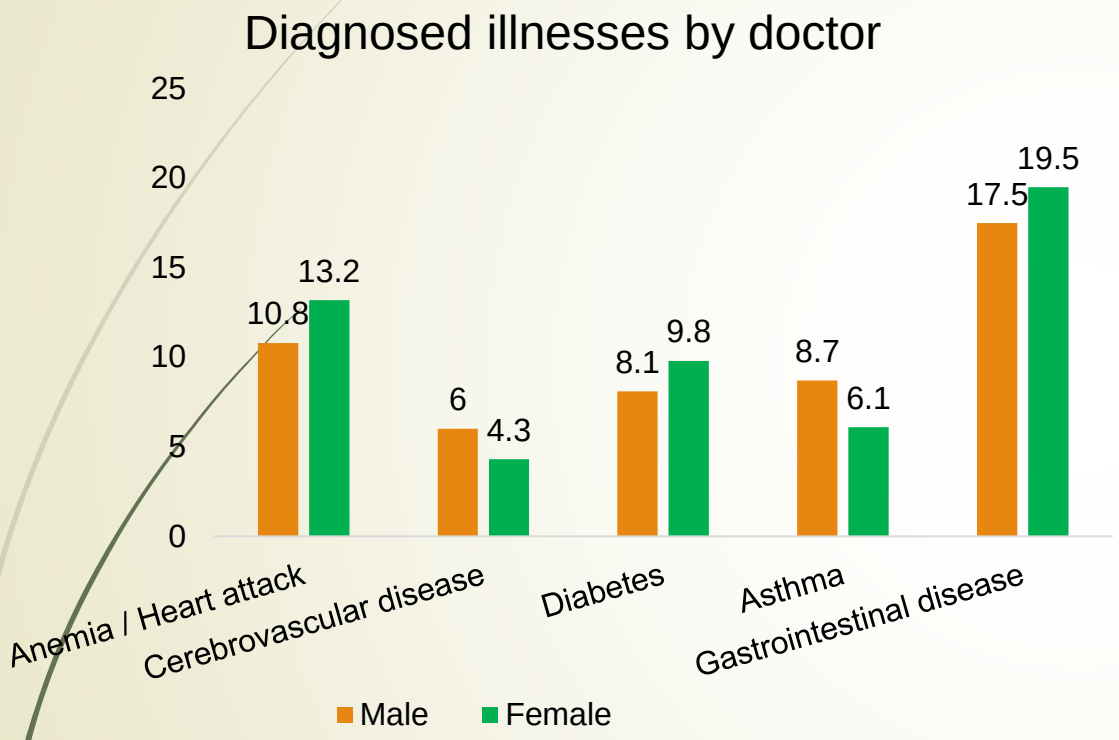
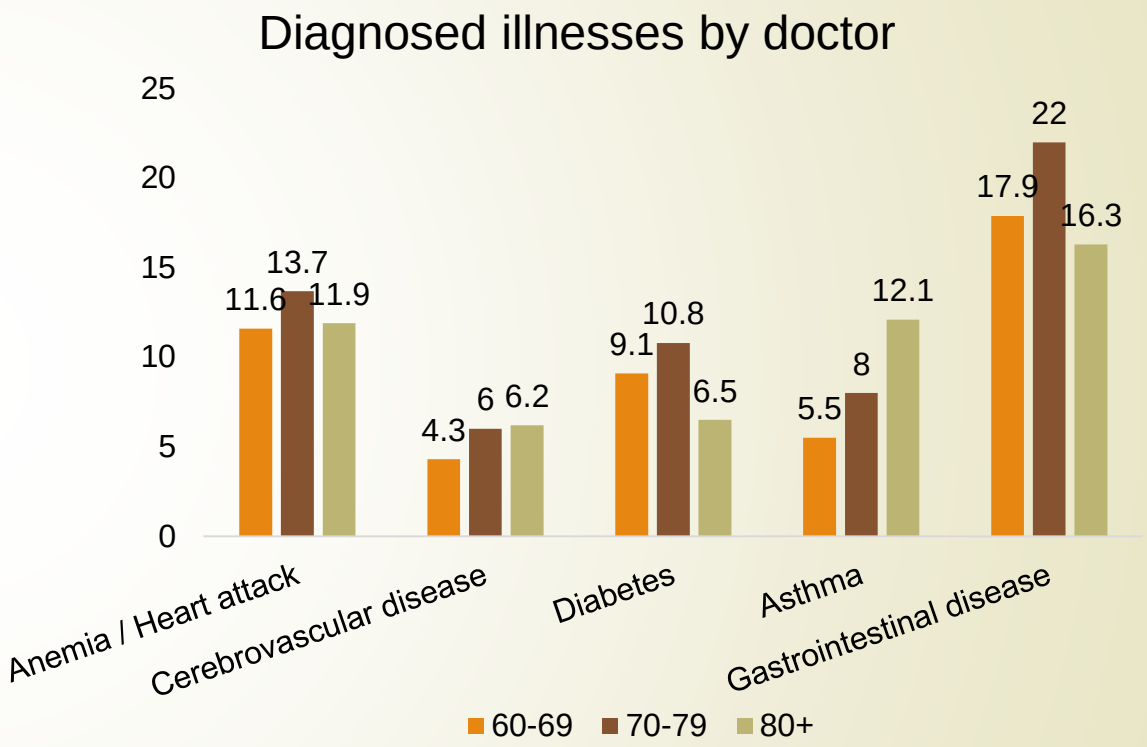
Health status of elderly people in Vietnam *(cont.)*

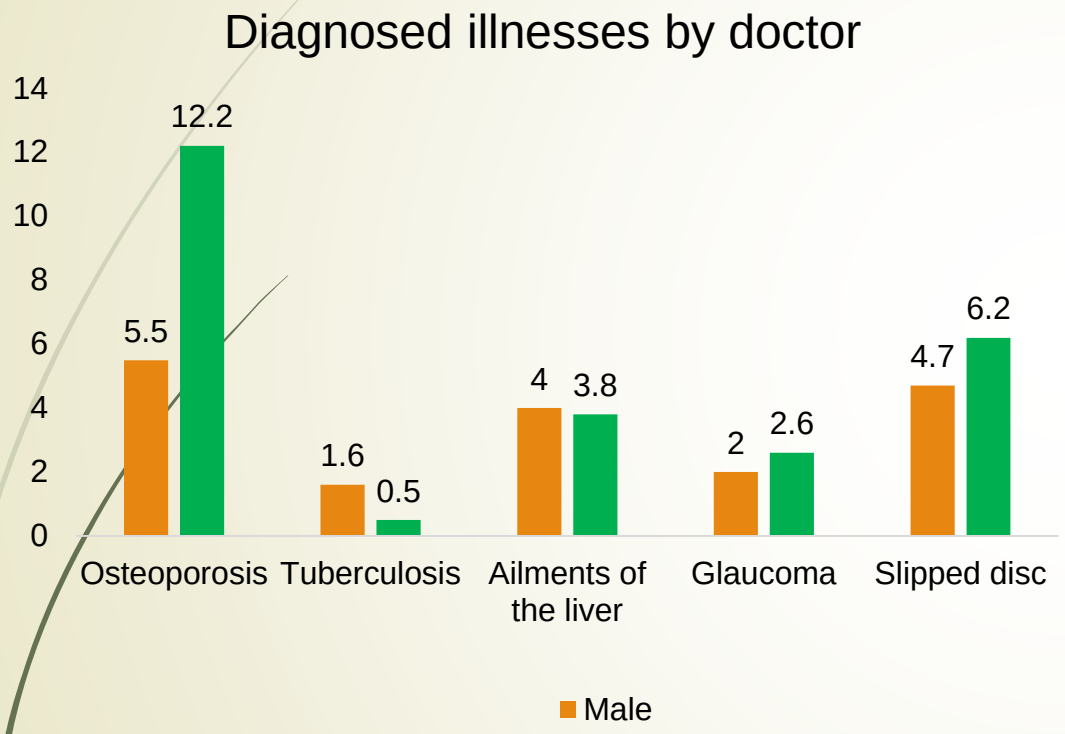


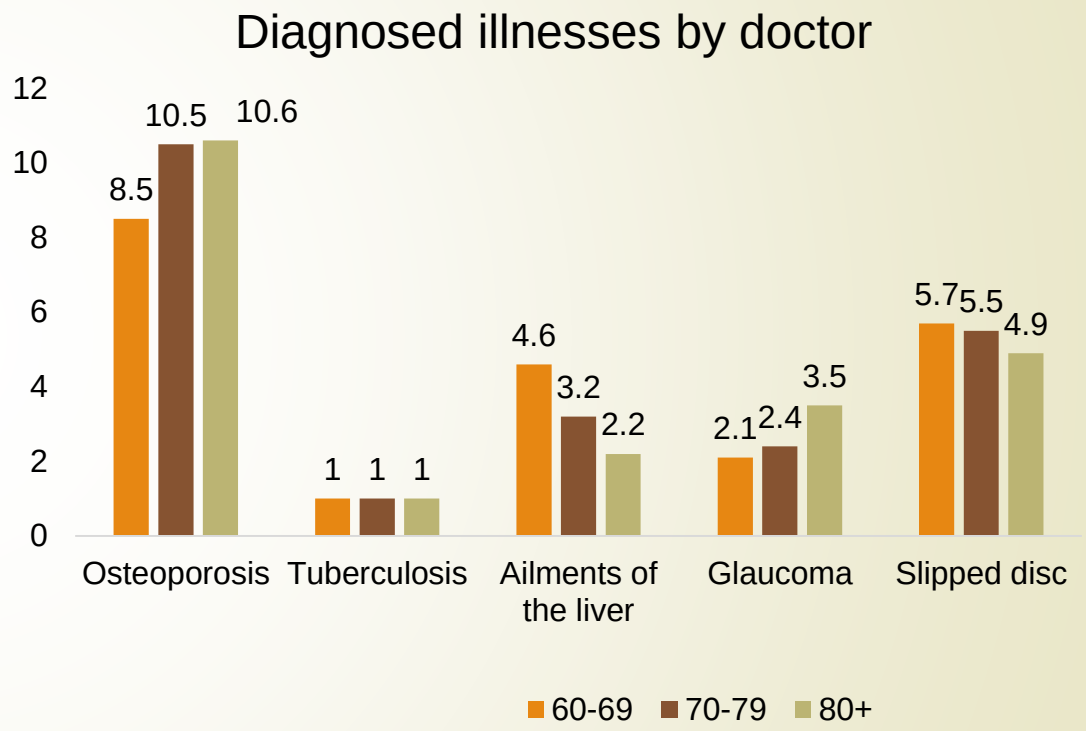


N=6,050

LONGITUDINAL STUDY OF AGING AND HEALTH IN VIETNAM (LSAHV)

Health status of elderly people in Vietnam *(cont.)*

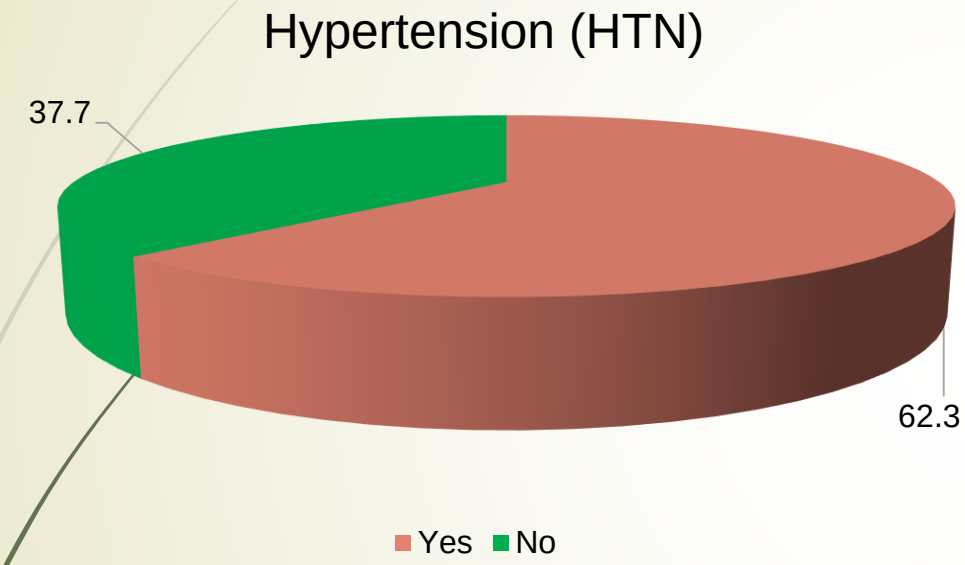


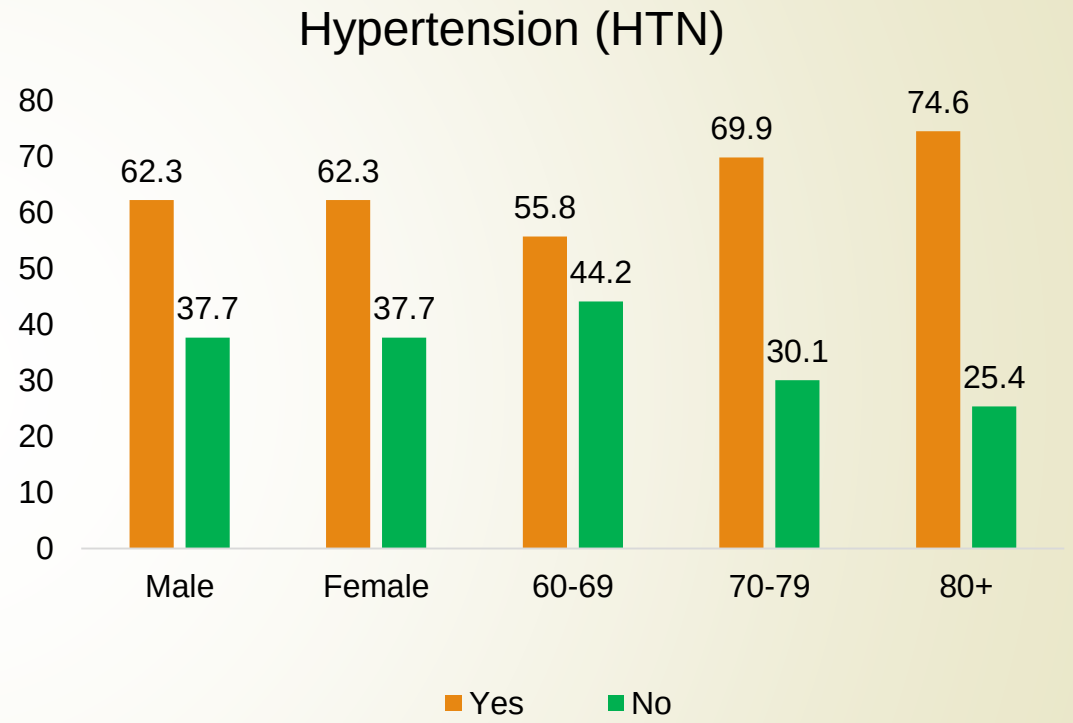


N=6,050

Health status of elderly people in Vietnam *(cont.)*

Hypertension

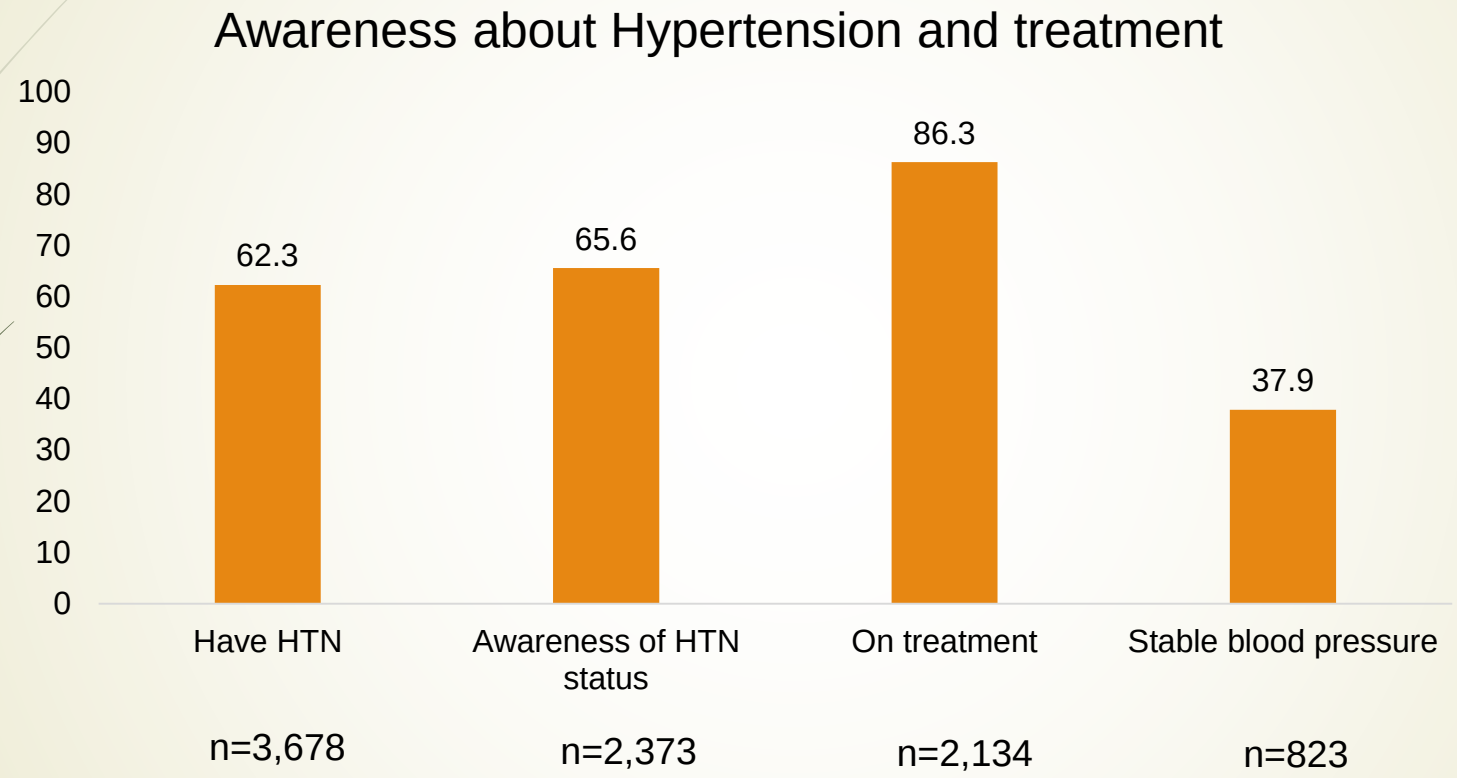




HTN=SBP >=140 or DBP>=90
or diagnosed by doctor having HTN

N=5,676

Health status of elderly people in Vietnam *(cont.)*
Hypertension



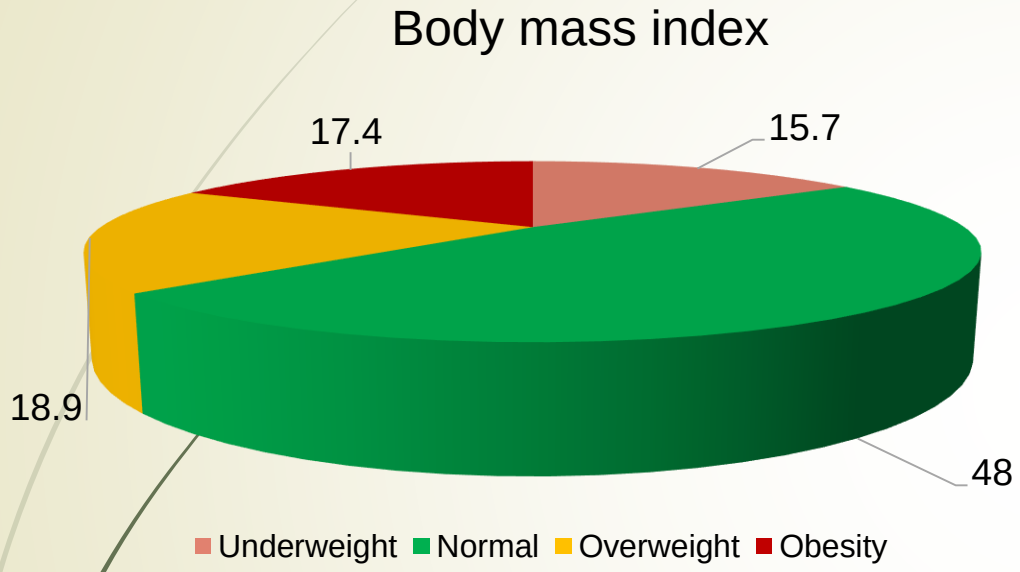
HTN=SBP >=140 or DBP>=90
or diagnosed by doctor having HTN

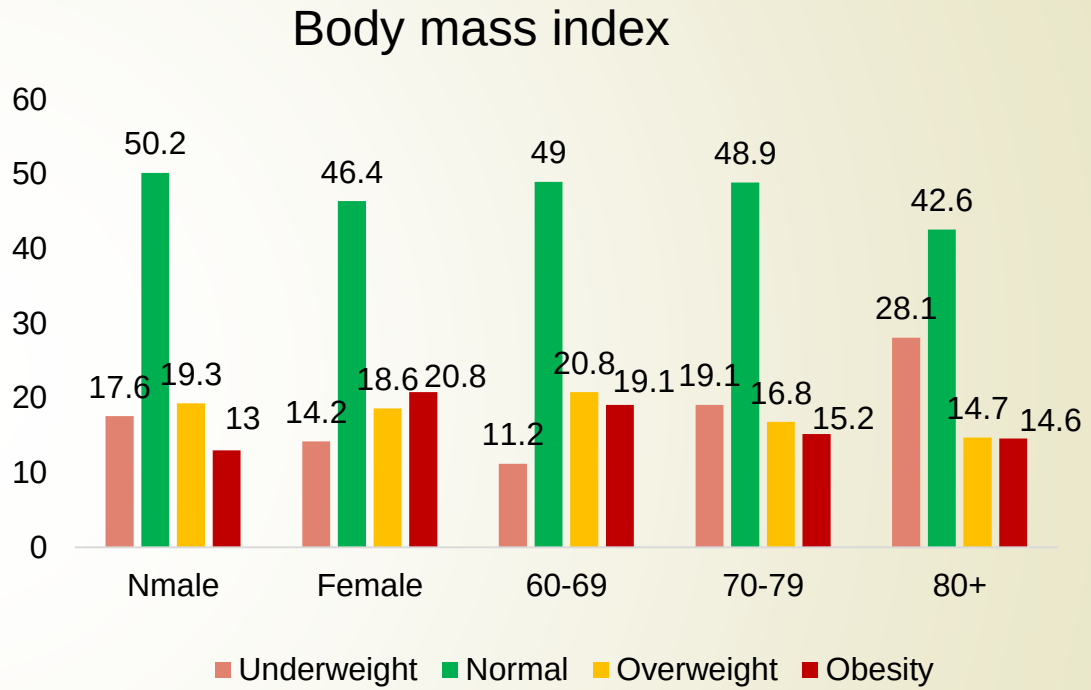
N=5,676

Stable blood pressure when: There is treatment and SBP <140mmHg and DSP <90 mmHg

Health status of elderly people in Vietnam *(cont.)*

BMI





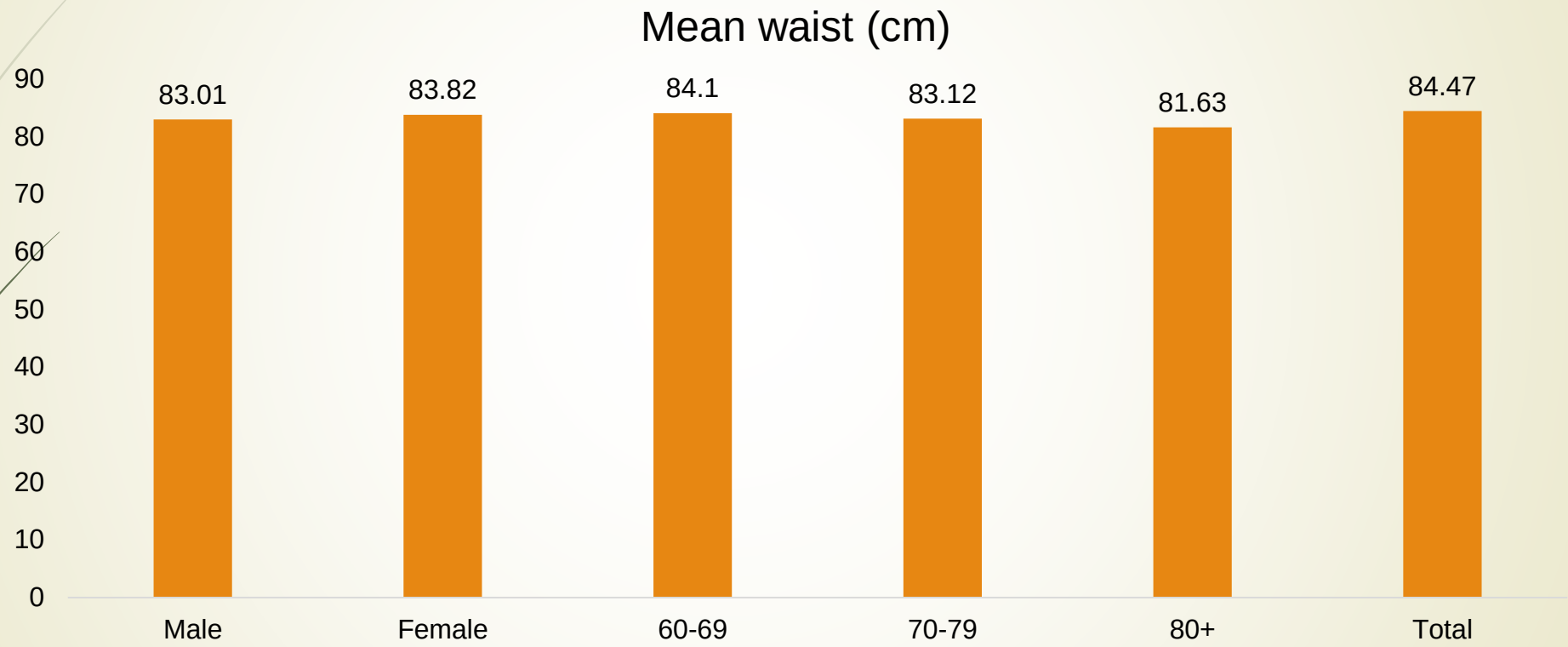
Underweight: BMI <18.5
Normal: BMI 18.5-25
Overweight: BMI 25-30
Obesity: BMI >=30

N=5,650

p<0.05

Health status of elderly people in Vietnam *(cont.)*

Mean waist (cm)



N=5,650

p<0.001

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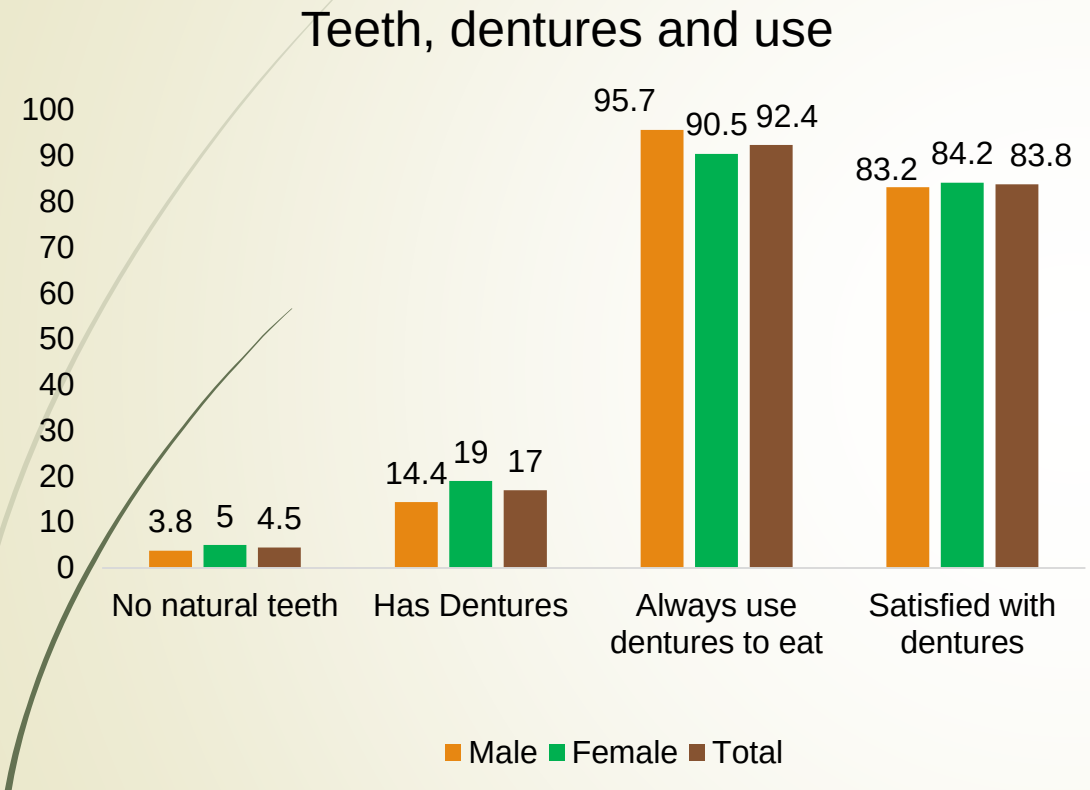
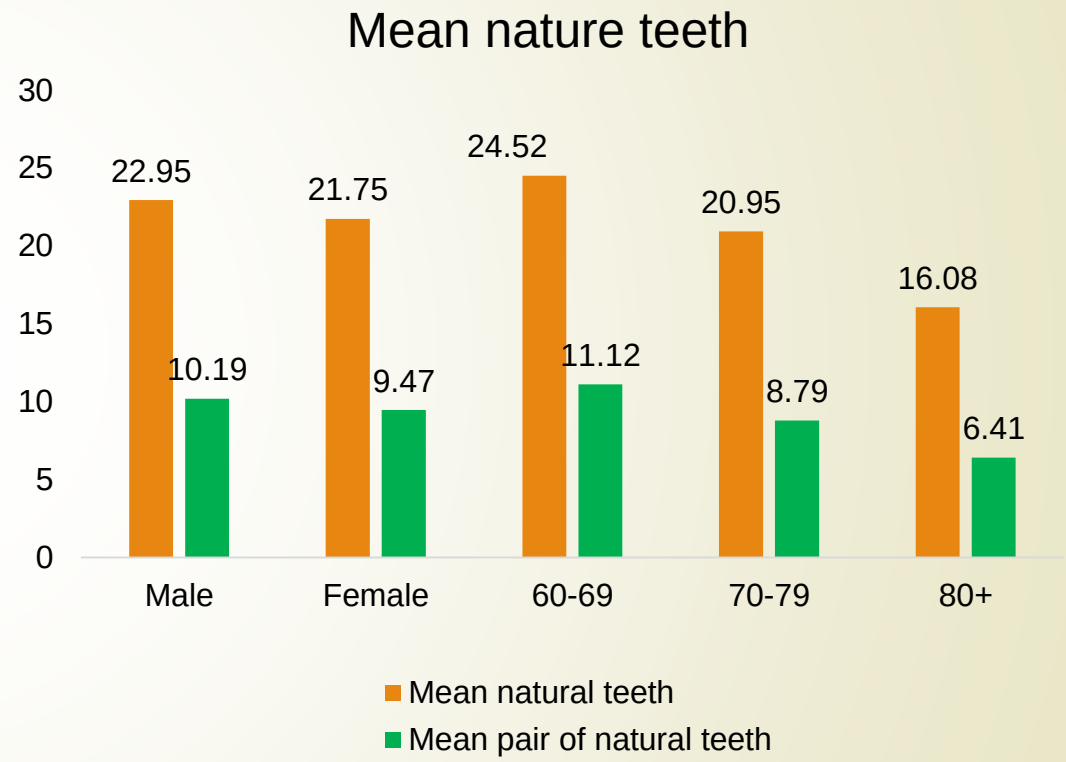
Health status of elderly people in Vietnam *(cont.)*

Oral Health



N=6,035



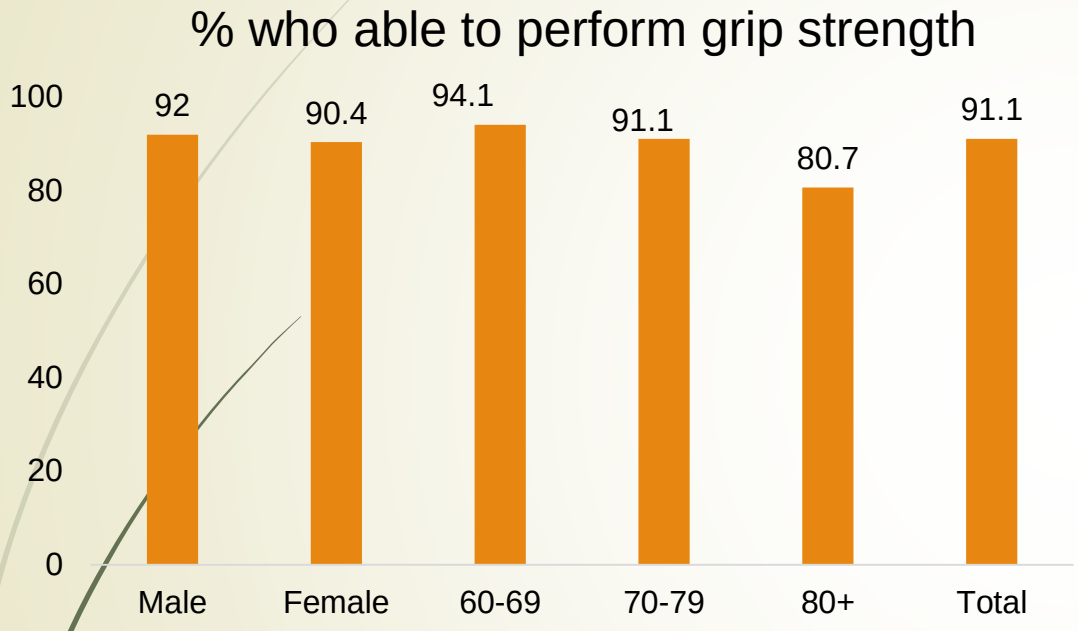
N=4,572

LONGITUDINAL STUDY OF AGING AND HEALTH IN VIETNAM (LSAHV)

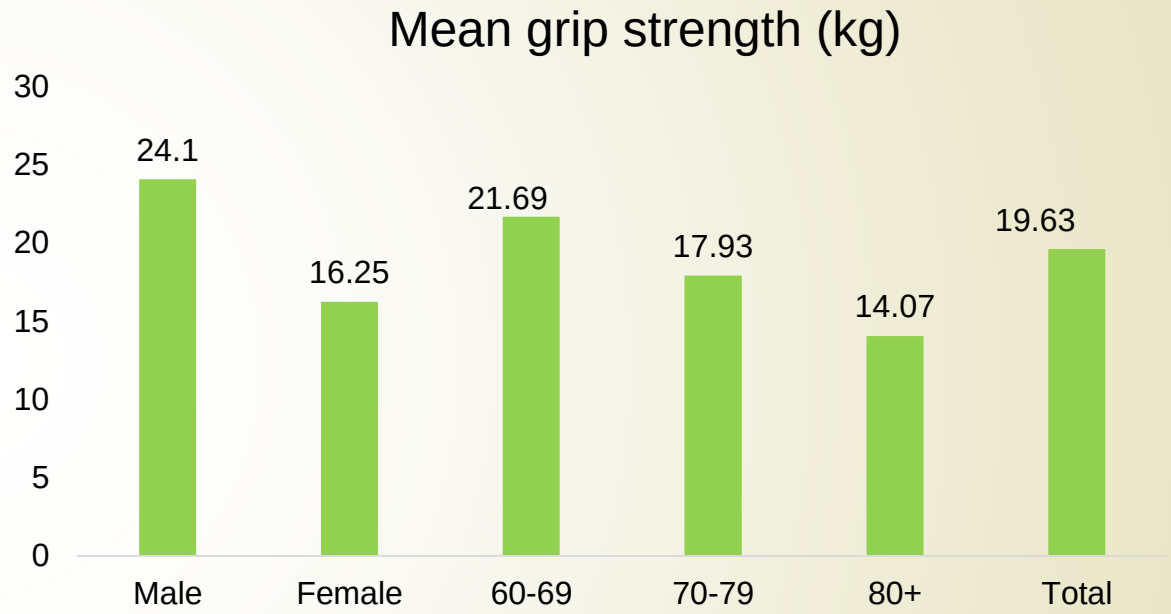
ERIA PHAD

Health status of elderly people in Vietnam *(cont.)*

Grip strength



N=6,035

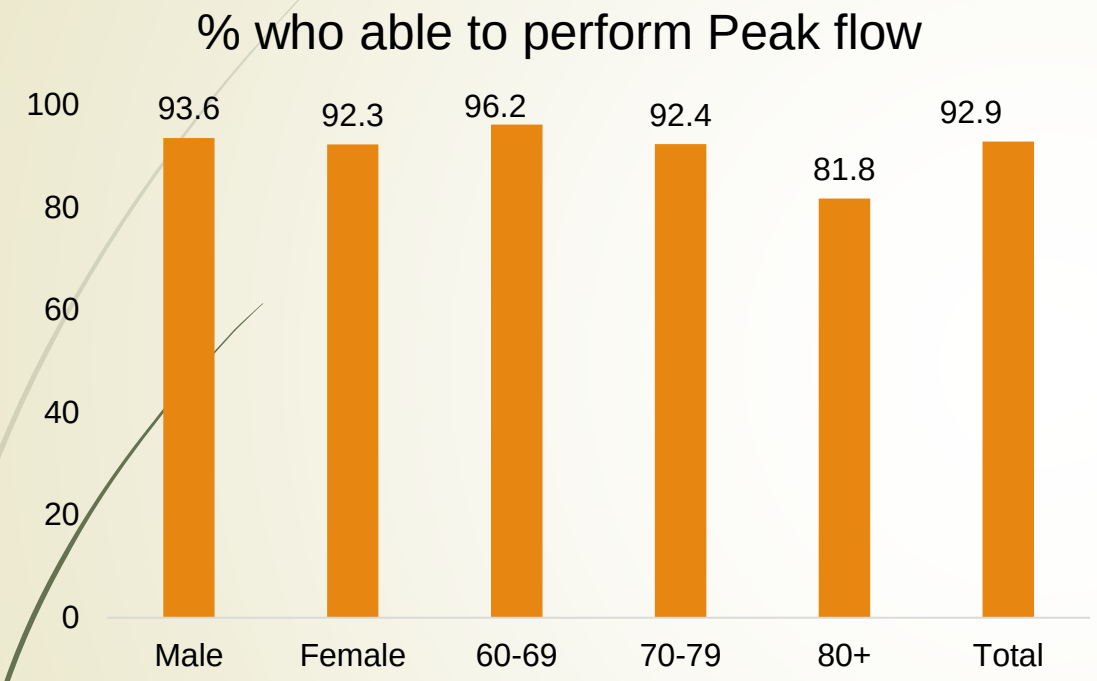


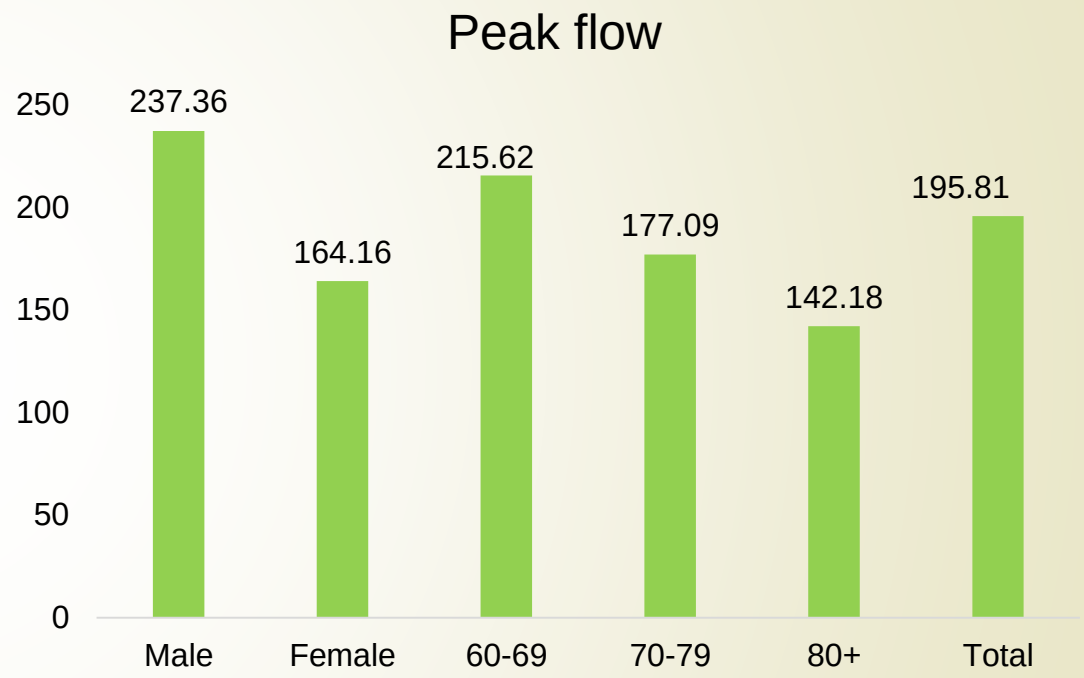
N=5,313

p <0.01

Health status of elderly people in Vietnam *(cont.)*

Peak flow





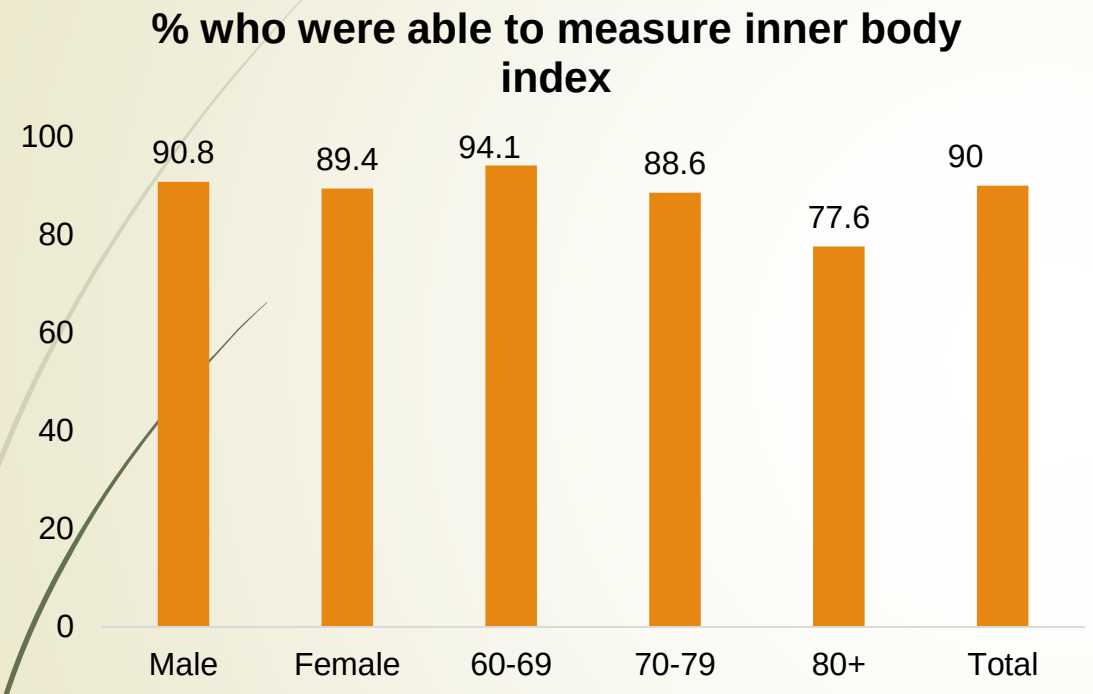
N=6,050

N=5,246

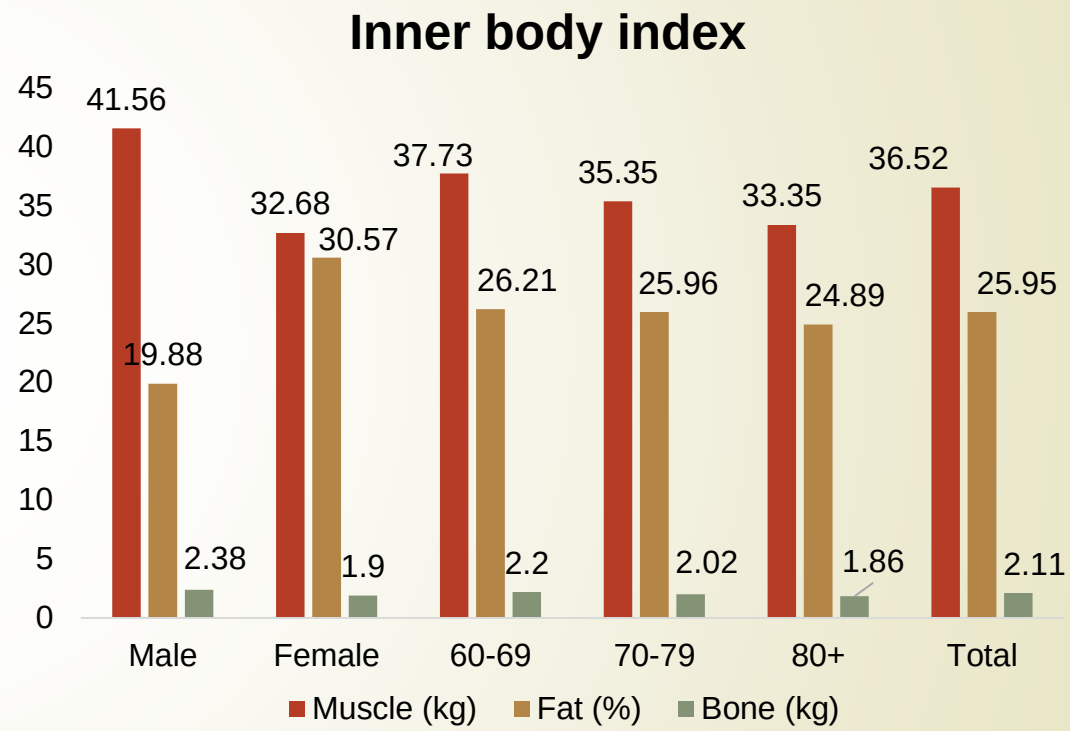
p <0.01

Health status of elderly people in Vietnam *(cont.)*

Inner body scan



N=6,050



N=5,347

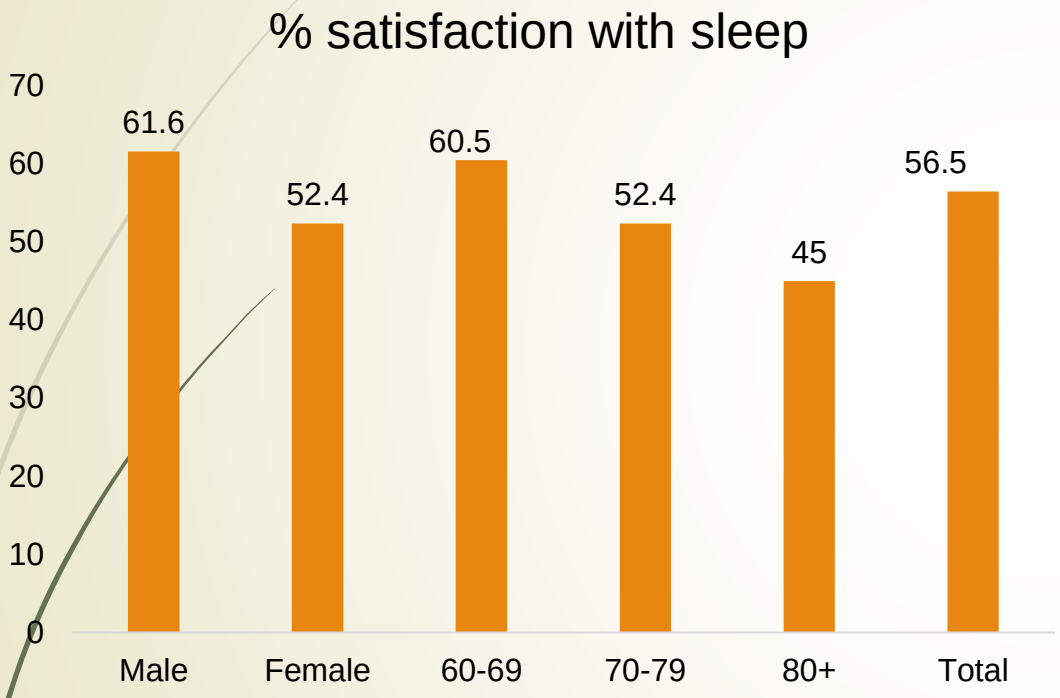
p <0.01

LONGITUDINAL STUDY OF AGING AND HEALTH IN VIETNAM (LSAHV)

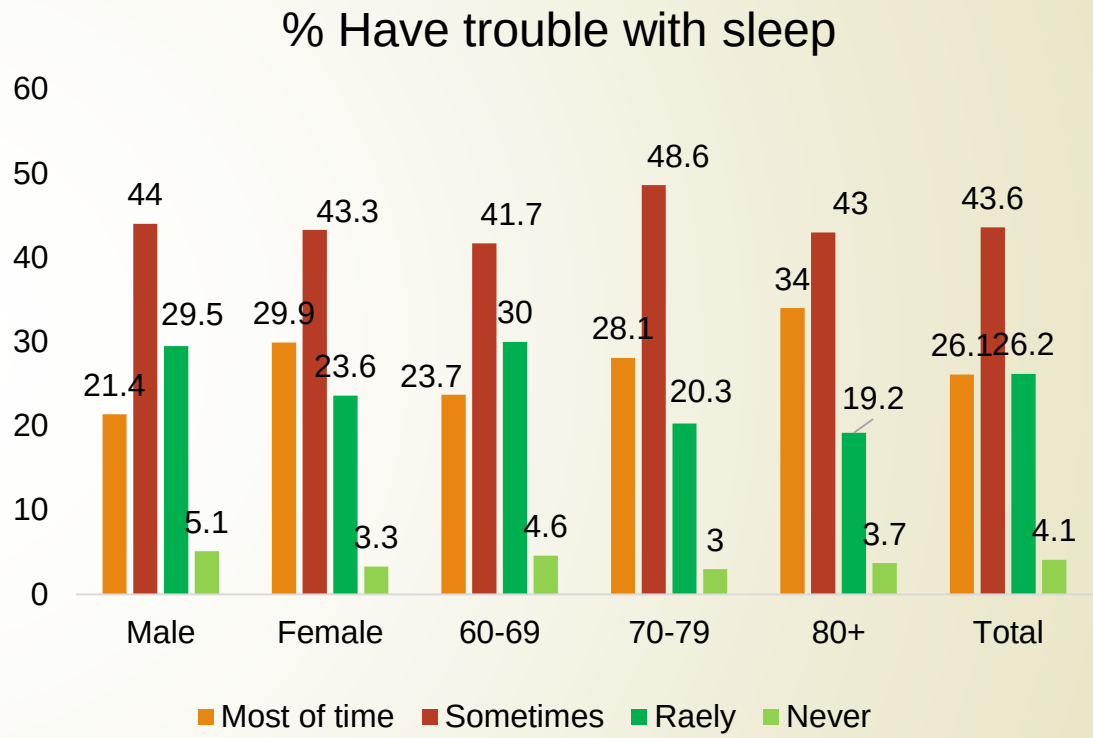
ERIA PHAD

Health status of elderly people in Vietnam *(cont.)*

Mental health: Sleep disorders



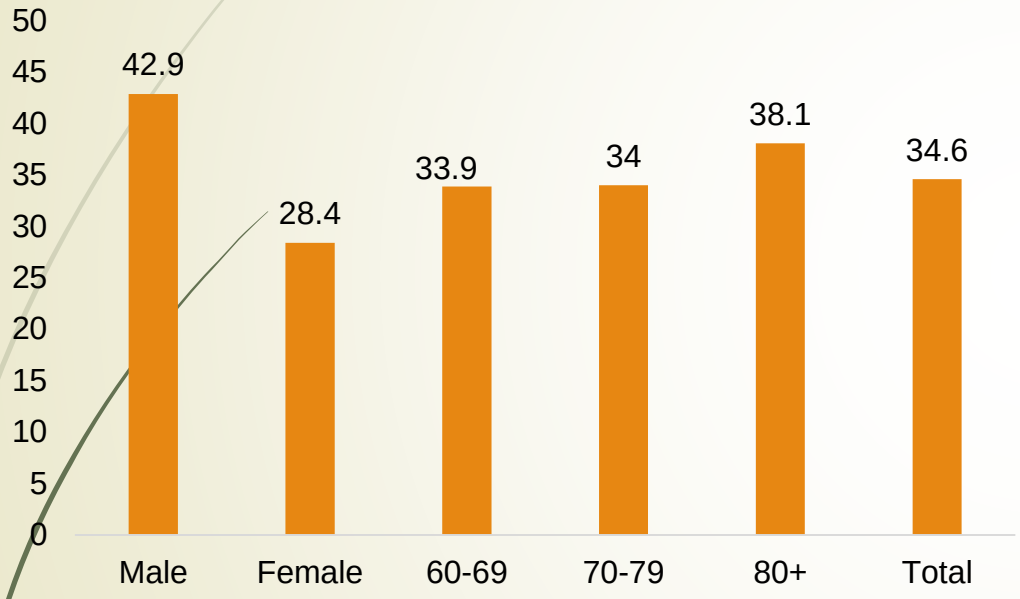
N=5,337



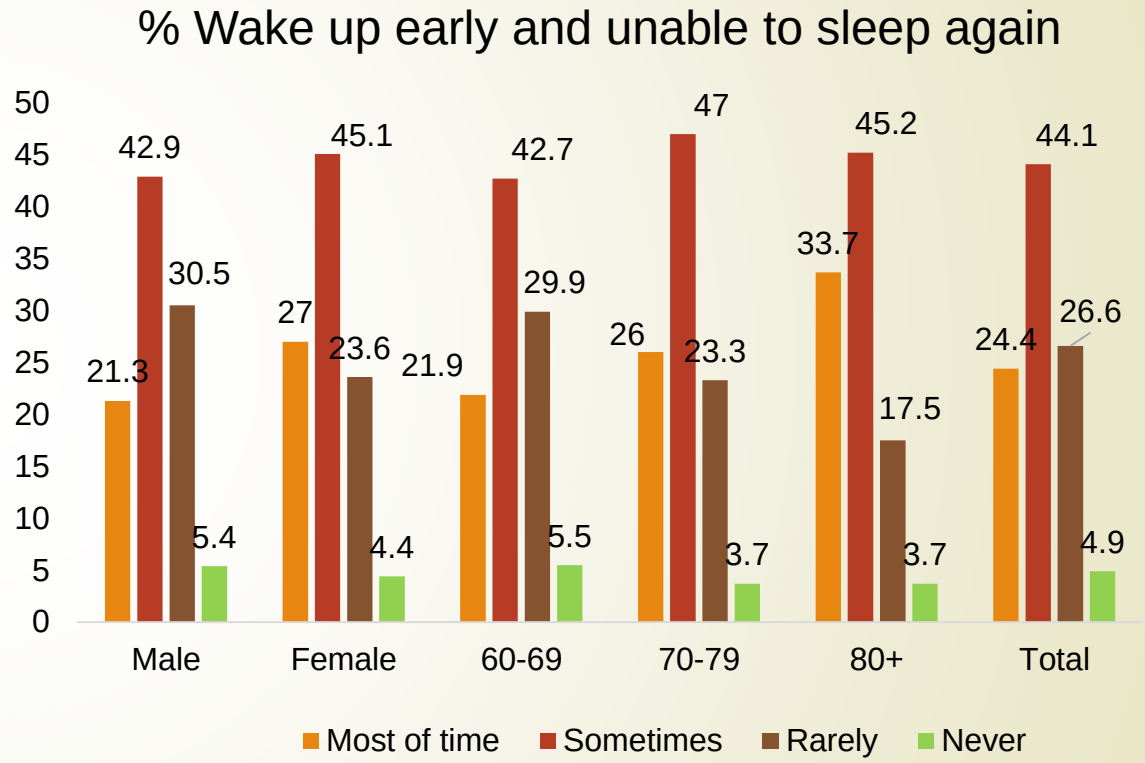
N=5,306

Health status of elderly people in Vietnam *(cont.)*

Mental health: Sleep disorders



N=5,036



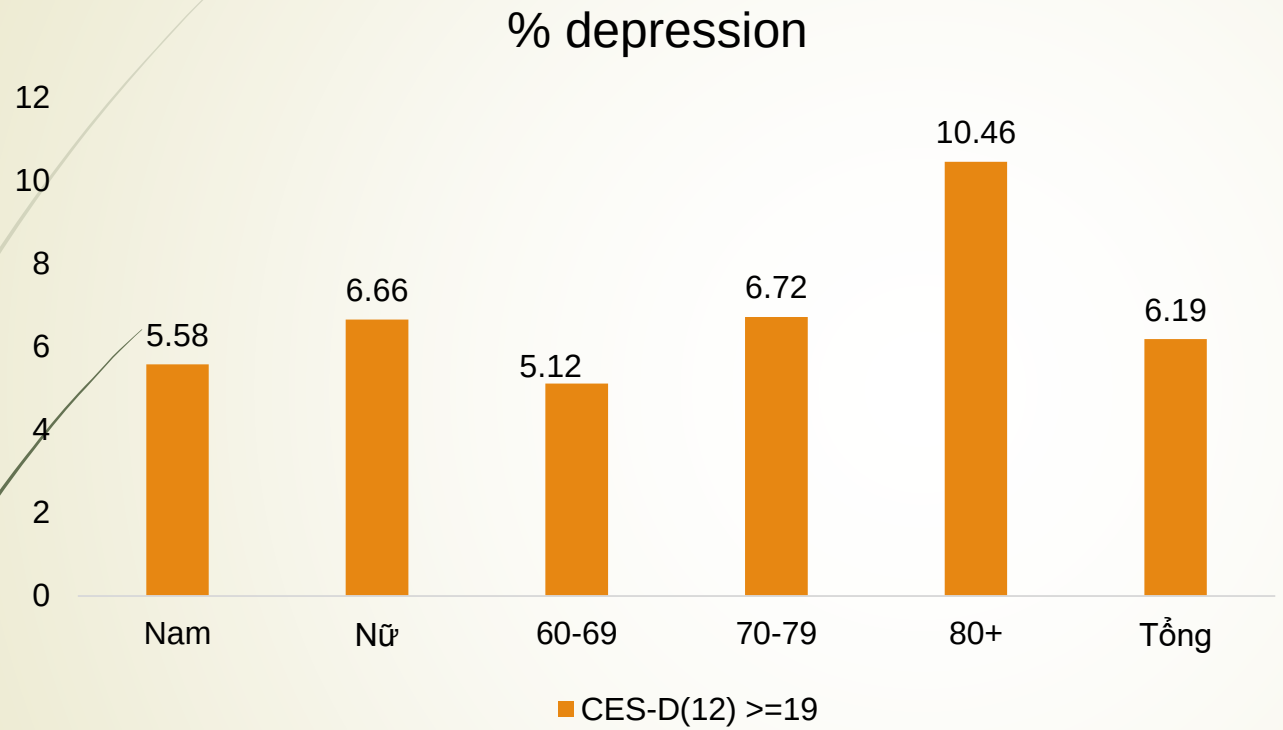
N=5,291

LONGITUDINAL STUDY OF AGING AND HEALTH IN VIETNAM (LSAHV)

ERIA PHAD

Health status of elderly people in Vietnam *(cont.)*

Mental health: Depression

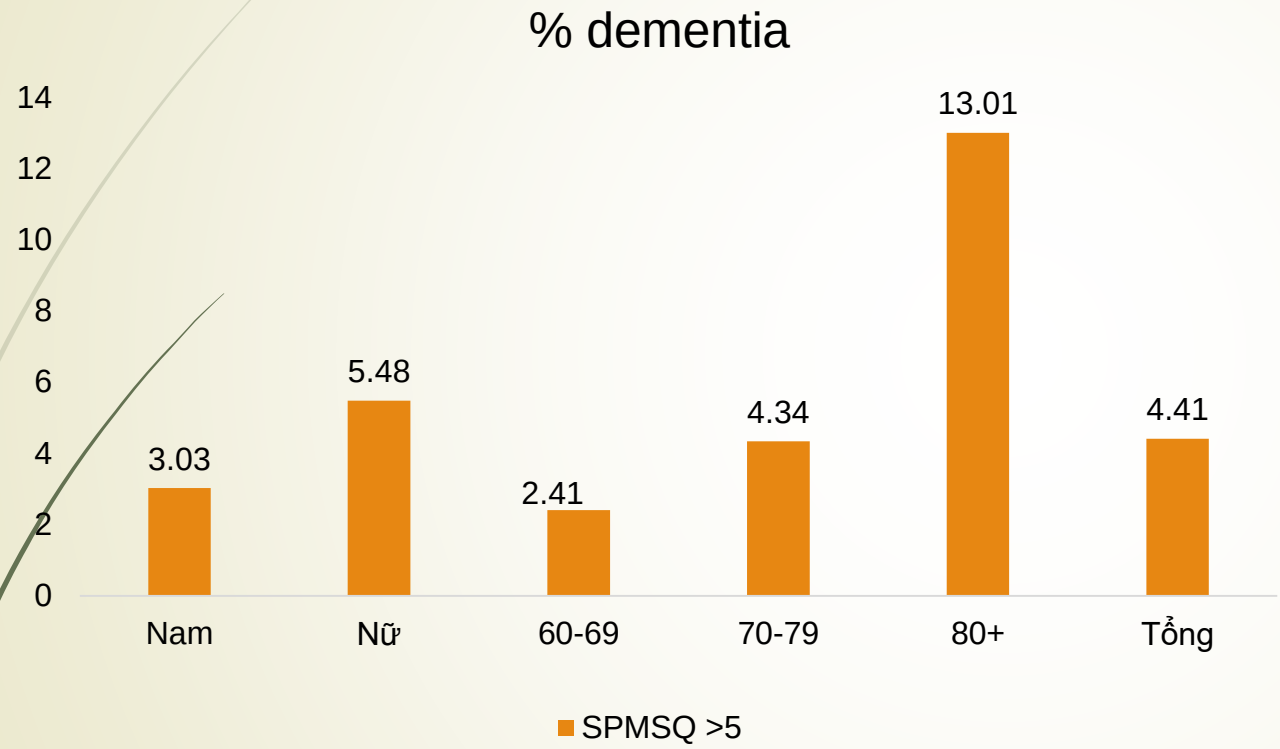


N=4,373

Screening: CES-D 12 items
<19: No Depression
>=19: Depression
Limitations: Not yet tested in Vietnam

Health status of elderly people in Vietnam *(cont.)*

Mental health: Dementia



N=5,629 p <0.01

Screening form SPMSQ: Number of allowed incorrect sentences

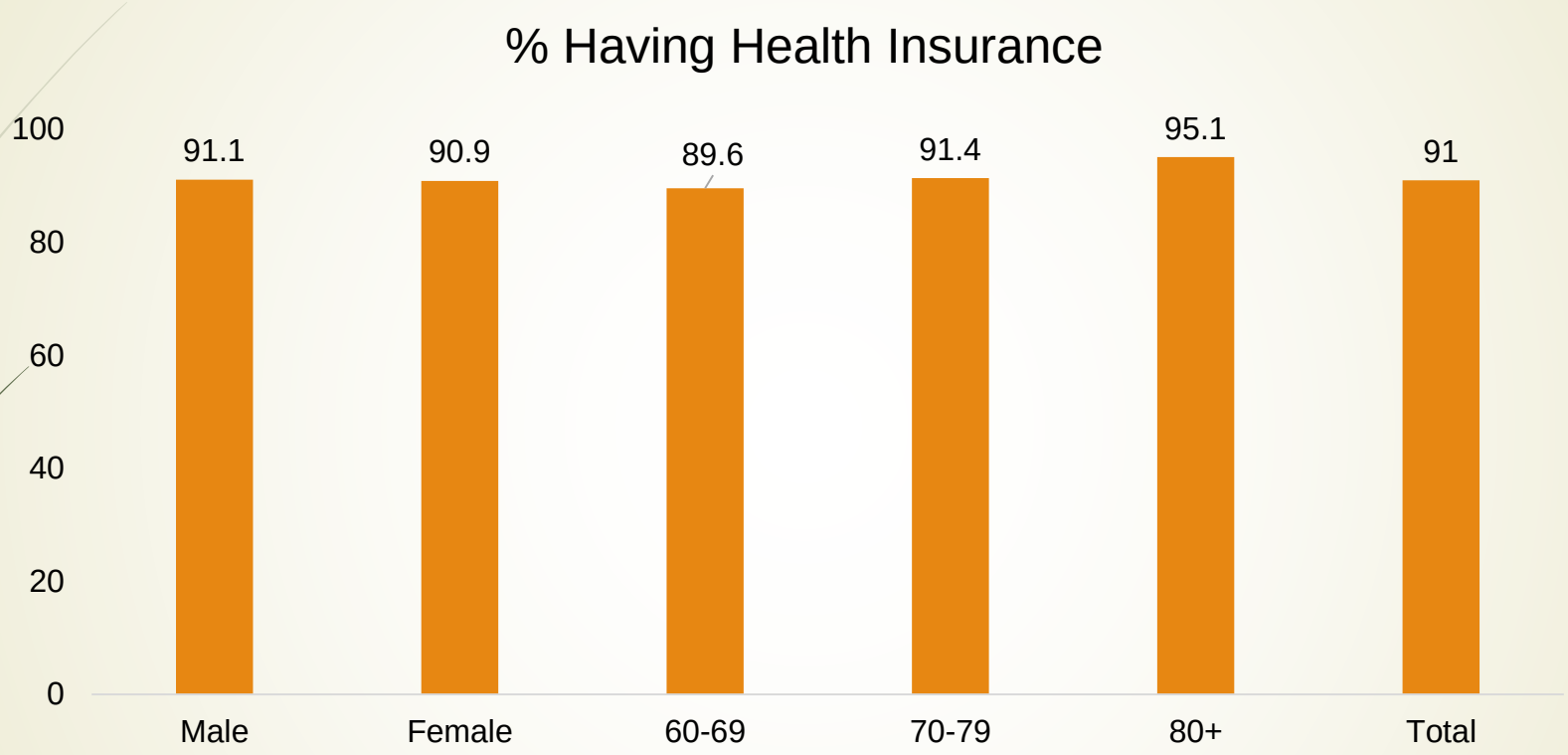
<= 5 if elementary or not attending school

<= 4 if attending high school

<= 3 if graduate / college

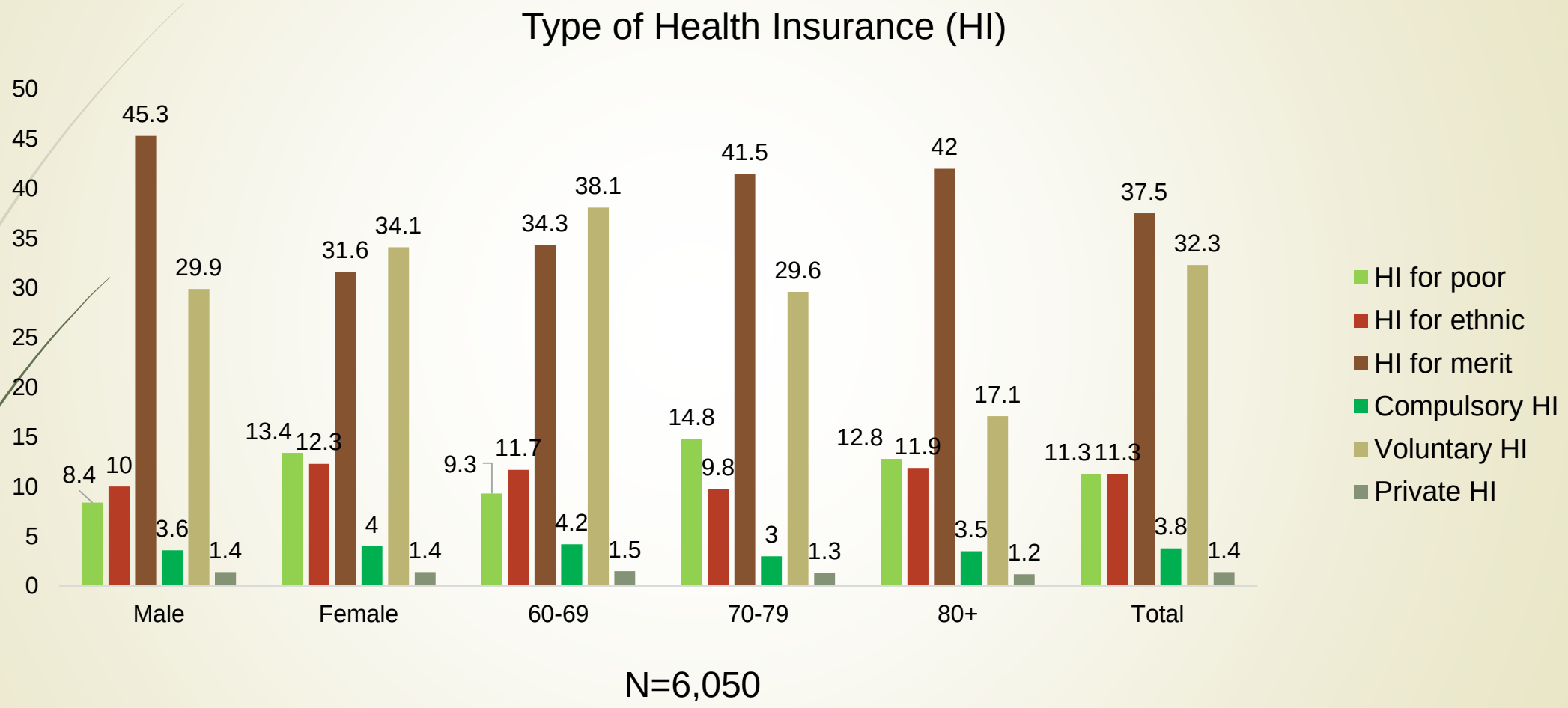
Limitations: Not yet validated in Vietnam

Using health services and payment



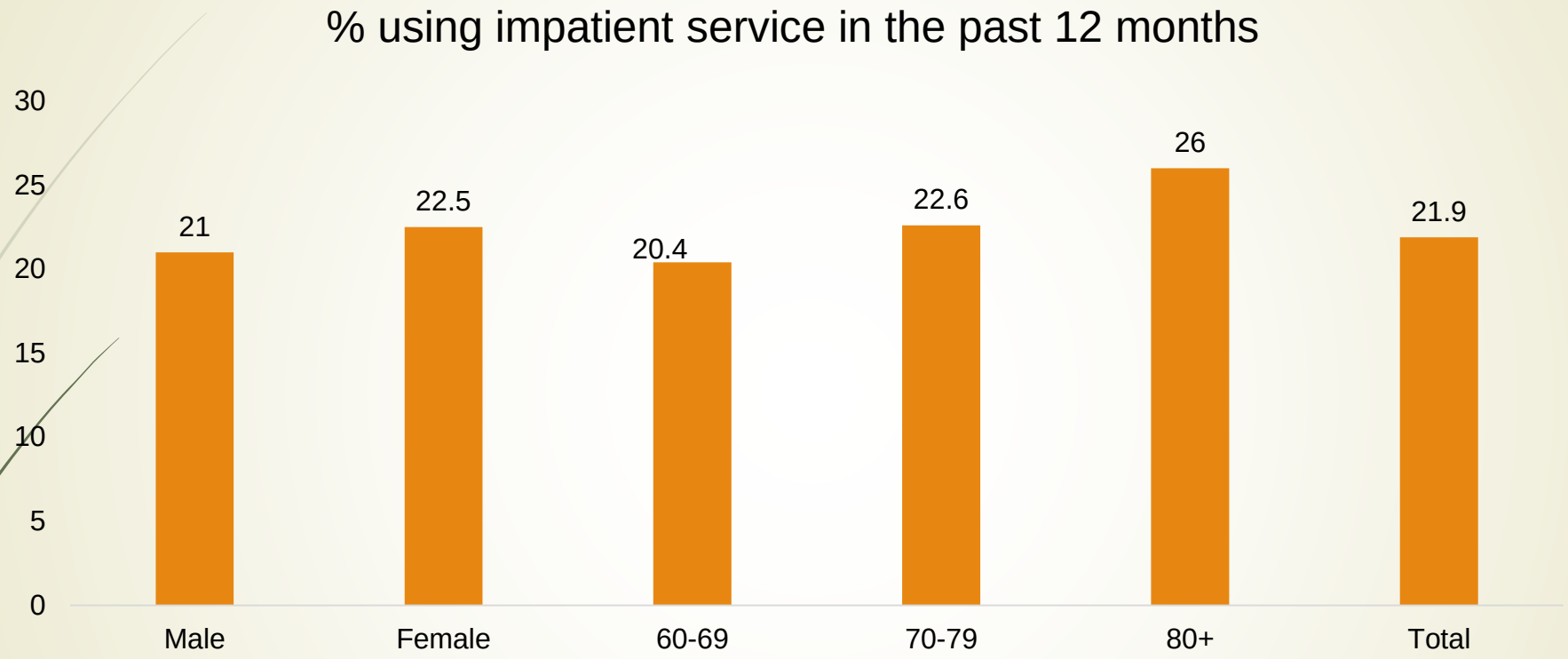
N=6,050

Using health services and payment *(cont.)*



N=6,050

Using health services and payment *(cont.)*



N=6,050

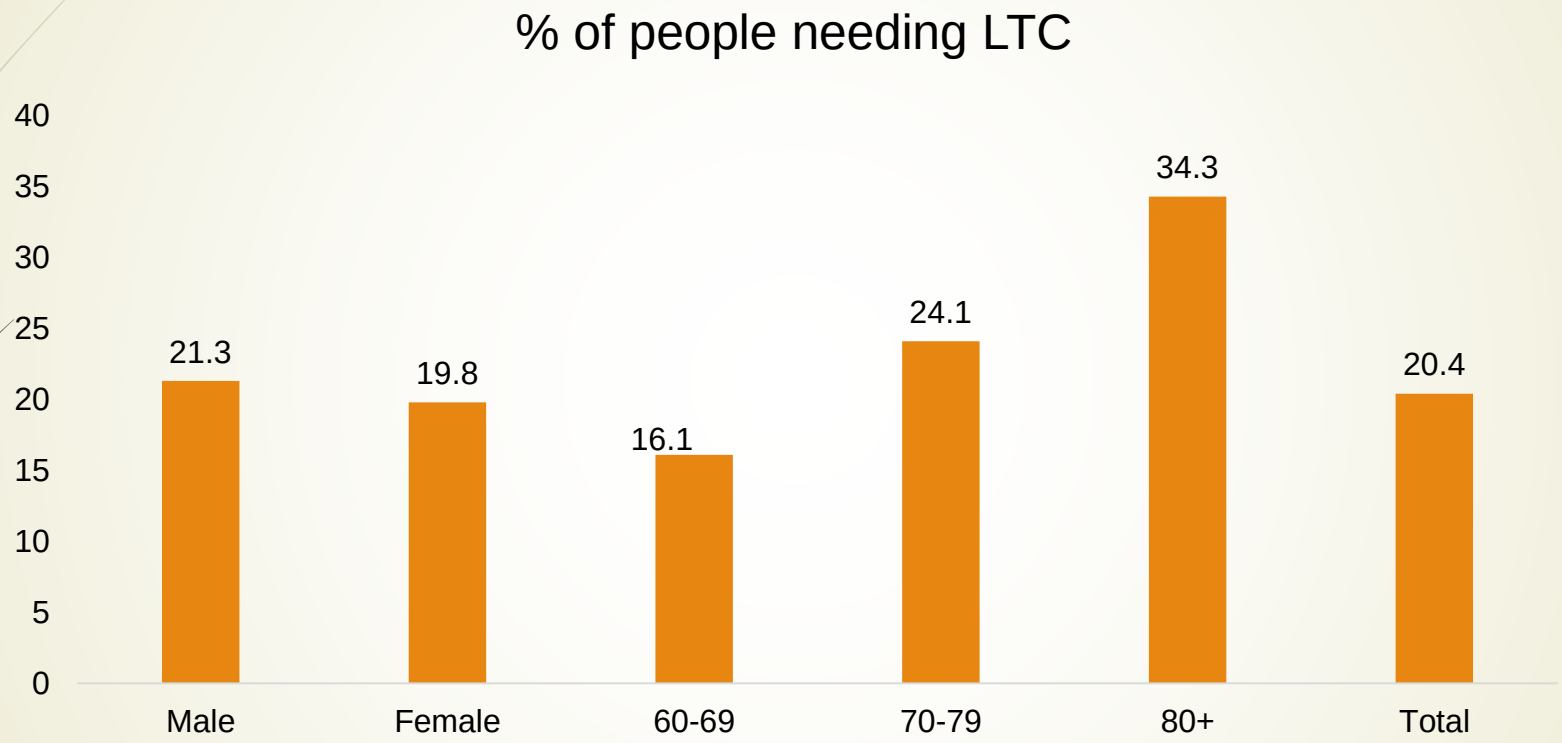
Care giver

Who is currently caring Old people?

Long-term caregiver	Genders			Age				Total
	Nam	Nữ	Sig	60–69	70–79	80+	Sig	
Husband/Wife	61.1	25.5		49.3	36.3	17.1		40.8
Sons	23.7	36.1		27.0	32.4	41.5		30.7
Daughters	8.0	16.9		9.4	16.6	20.7		13.1
Daughters in law	1.6	8.3		3.8	6.0	10.2		5.4
Sons in law	0.2	0.02	***	0.04	0.2	0.08		0.07
Grand-childrens	0.5	1.7		0.7	1.2	2.9		1.2
Relatives	0.8	2.8		2.3	1.7	1.0		1.9
Taking care on their own	2.0	4.3		4.1	2.5	1.8		3.3
Hire caregivers	0.04	0.3		0.04	0.2	0.7		0.2
Others	0.5	1.2		0.8	1.0	1.1		0.9
N	2,570	3,480		2,638	2,004	1,408		6,050

Long-term Caregiver (LTC)

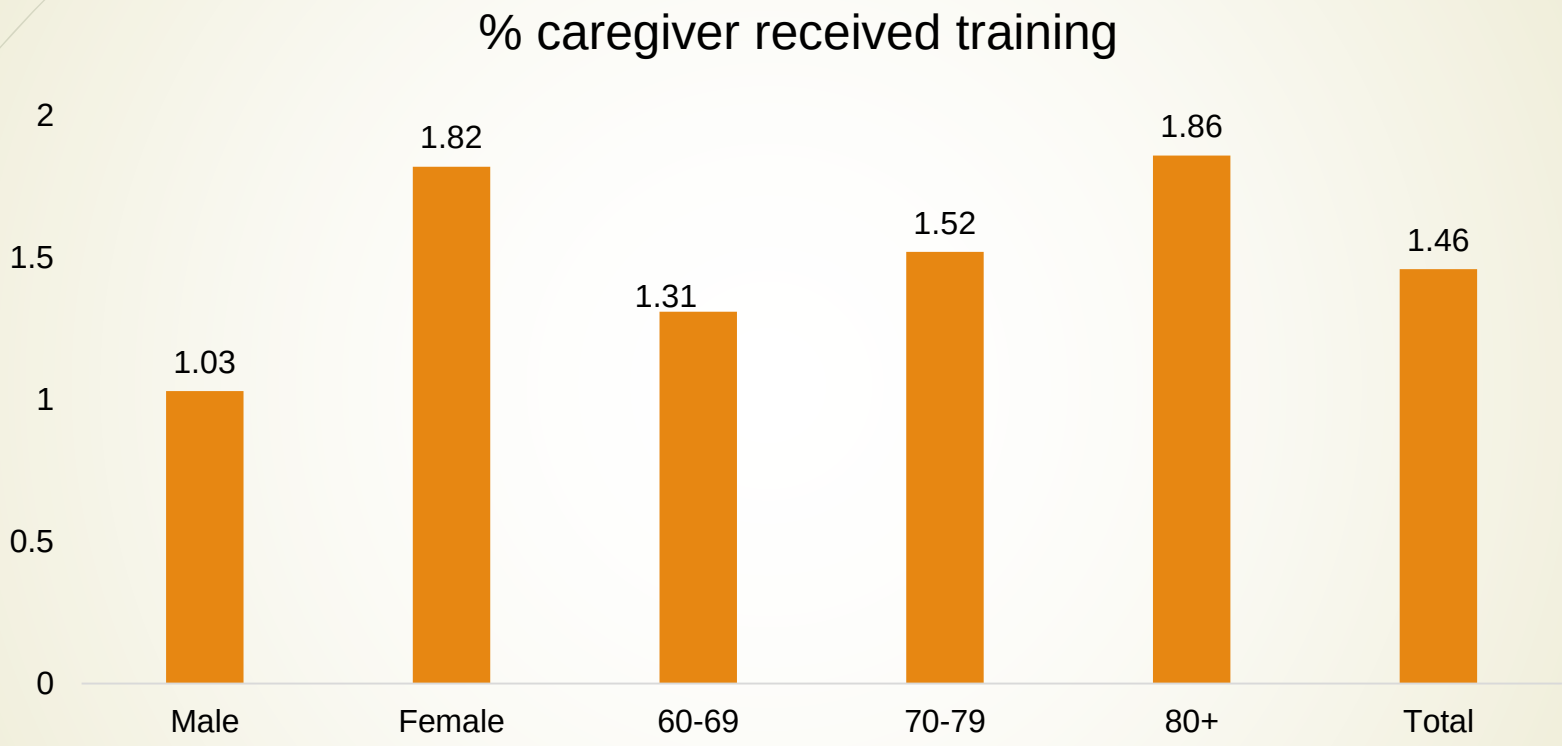
% of people needing LTC due to constant illness and disability



N=5,354

Long-term Caregiver (LTC)

% caregiver received training



N=3,581

QUESTIONS & ANSWER

THANK YOU FOR YOUR ATTENTION!