

人類生態班 B

**COMPREHENSIVE GERIATRIC ASSESSMENT IN THE COMMUNITY-DWELLING ELDERLY IN SONGKHON DISTRICT  
IN LAO PDR**

**Kozo Matsubayashi<sup>1</sup>, Kiyohito Okumiya<sup>2</sup>, Masayuki Ishine<sup>3</sup>, Teiji Sakagami<sup>3</sup>, Matheus Cruz<sup>3</sup>, Idiane Cruz<sup>3</sup>,  
Naoko Ishine<sup>3</sup>**

**(1. Southeast Asian Studies, Kyoto University, 2. Research Institute for Humanity and Nature, 3. Graduate  
School of Medicine, Kyoto University)**

INTRODUCTION

The elderly population in Japan is rapidly growing at the fastest rate in the world. In response to the increasing population of the elderly, how to provide efficient and effective health care to older persons has been an intense debate.

In 21st centuries, rapid growing of the elderly population in each country in Southeast Asia will follow to Japan. In Lao PDR, the projected percentage of elderly people aged 65 years or more will increase into 14% in 2050 from 5% in 2000. Our medical team have carried out assessing the comprehensive medical functions of the community-dwelling elderly and providing efficient education to promote health state of the elderly population in Japan. Adding to the longitudinal geriatric intervention study in Japan, we also investigated older subjects living in Singapore and Korea, followed by Indonesia, and Vietnam. These countries have second and third leading aging population in Asia. As the results, diseases and frailty in community-dwelling old subjects are revealed to be influenced by the ecological differences such as natural environments, historical backgrounds, the lifestyle, habits, religions and health promotion policies in the area. With longer life span and decreasing birth rate, demographic aging is now an established trend not only in Western country but also in Asian countries. The issue of efficient health-care for the elderly is therefore growing a more urgent issue even in the Southeast Asian countries. To achieve appropriate policies to detect the ecology-related risk factors for frailty in the elderly and to prevent the disabilities of elderly population, and also to provide the useful care services to the frail elderly, we need to further investigate each comprehensive area study in the standpoint of view of health and diseases.

In this paper, we reported the geriatric indicators such as activities of daily living (ADL) and quality of life (QOL) as well as blood pressures and blood chemical findings in the elderly living in 6 villages in Songkhon District in Savannakhet Province in LAO PDR. This medicoecological results intends to clarify the medical and geriatric actual conditions of elderly people in Lao PGD and may contribute to future strategy to promote the health of the elderly in Lao PDR as well as in Japanese ones.

SUBJECTS AND METHODS

Study population consisted of 295 elderly people (M:F=119:186, mean age: 69years old) living in mainly 6 villages (Lahanam Thong, Bngkhamlai, Thakhamlian, Dong Bang, Lahanam Tha, Kokphak) in Songkhon district in Savannaket Province.in Lao PDR.

Each of all the elderly residents was inteviwed a 58-item questionnaire. We assessed activity of daily living (ADL), quantitative quality of life (QOL), depressive tendency by each interview as well as blood pressure measurements, physical examination and blood chemical analysis. For basic-ADL assessment, each subject rated his/her independence in seven items (walking, ascending and descending stairs, feeding, dressing, toileting, bathing, grooming). Each Basic-ADL item was evaluated along four levels: 3=completely independent; 2=needing some help; 1=needing much help; 0=completely dependent. Then each item score was summed up to generate

the total basic ADL score ranging from 0 to 21. For higher-level functional capacity, each subject rated his/her independence in the Tokyo Metropolitan Institute of Gerontology (TMIG) index of competence. This consists of a 13-item index including 3 sublevels of competence; (1) instrumental self-maintenance (5 items; the ability to use public transport, buy daily necessities, prepare a meal, pay bills, handle banking matters, rated on a yes/no basis), (2) intellectual activities (4 items; the ability to fill forms, read newspapers, read books or magazines and interest in television programs or news articles on health-related matters, rated on a yes/no basis), (3) Social role (4 items, the ability to visit own friends, give advice to relatives and friends who confide, visit someone at the hospital and initiate conversation with younger people, rated on a yes/no basis). QOLs were assessed using a 100 mm visual analogue scale (VAS) (worst QOL on the left end of the scale, best on the right) in the following five items; subjective sense of health, relationship with family, relationship with friends, financial status and subjective happiness. We have already confirmed inter-rater reliability ( $R=0.74$ ) and intra-rater reliability ( $R=0.82$ ) of VAS. We also assessed living condition, lifestyle, social and medical histories (hypertension, current use of anti-hypertensives, histories of stroke, heart disease and osteoarthropathies). We screened for depressive symptoms using GDS-15 with a cut-off point of 6 and 10 or more, The GDS-15 has a sensitivity of 88% to 92% and specificity of 62% to 81%, as compared with a structured clinical interview for depression. We defined depression as a GDS-15 score of 6 or more, with a score of 6 to 9 indicating "mild depression", and a score of 10 or more "severe depression". The GDS-15 approximately 4 minutes to complete and score. In cases where the elderly were not able to directly answer to the questions (e.g. not being able to read or write clearly), caregiver helped them to complete the interview. Blood chemical analysis included serum total protein, albumin, total cholesterol, HDL-cholesterol, blood urea nitrogen (BUN), creatinine, uric acid (UA) and hemoglobin concentration (Hb). Statistical analysis was performed using StatView ver.5 for Macintosh (SAS institute, Inc., Cary, NC). Analysis of variance (ANOVA) and the student T test was used for continuous variables and chi-square test was used for dichotomous and categorical variables. P-value  $<.05$  was considered to be statistically significant.

Each data were compared with those in West Java in Indonesia and in Vietnam.

## RESULTS AND DISCUSSION

### ADL, Depression

Basic ADL score in the community-dwelling in Sogkhon District ( $19.2 \pm 2.7$ ) was similar to those in West Java ( $20.1 \pm 2.1$ ) and Vietnam ( $20.0 \pm 2.1$ ). Instrumental ADL in the elderly in Songkhon district was higher than those in West Java and was lower than those in Vietnam. Scores in social role was also higher than those in West Java and was lower than those in Vietnam<sup>1</sup>.

An Japanese Psychiatrist (TS) detected 24 elderly patients with psychiatric disorders (8%). They were 16 patients with major depression, 3 patients with minor depression and 5 patients with anxiety neurosis. These prevalence of depression in community-dwelling elderly in Lao PDR was lower than those in Japan or in West Java, but was higher than those in Vietnam.

### Anthropological findings

Body mass index in Lao elderly ( $21.6 \pm 4.0$ ) was higher than ones in both West Java ( $19.3 \pm 9.3$ ) and Vietnam ( $19.6 \pm 3.0$ ). Both systolic ( $130 \pm 24$ ) and diastolic blood pressure ( $78 \pm 14$ ) in the elderly in SogkhoDistrict were lowest among those in three countries.

### Blood Chemical Findings

The mean of serum total protein levels was lowest in the elderly living in Sogkhon ( $7.3 \pm 0.6$ ) compared with those in West Java ( $7.4 \pm 0.5$ ) and in Vietnam ( $7.5 \pm 0.5$ ). Mean of total cholesterol levels in Lao elderly ( $162 \pm 46$ ) was higher than those in West Java ( $148 \pm 29$ ) and was lower than those in Vietnam ( $170 \pm 36$ ). Mean hemoglobin concentration was lowest in Lao elderly people ( $9.3 \pm 1.3$ ) compared with those in West Java

(10.7 ± 1.9) and Vietnam (11.8 ± 1.4).

Of particular to note was that blood sugar level was highest in Lao elderly (137 ± 76) compared with those in West Java (105 ± 38) and in Vietnam (104 ± 28). The number of elderly patients with diabetes mellitus in Sogkhon District defined as blood glucose  $\geq$  140 mg/dl) was 52 (17.6%) which was higher than those in west Java and Vietnam.

Positive serum malarial reaction using "OPTIMAL" were only two patients (suspicious each falciparum and vivax, respectively) among 295 elderly people indicating that active malarial infection in the elderly population in the Songkhon District in the season were not so much.

#### CONCLUSION

295 Community-dwelling elderly aged 60 years old or more in Sogkhon District in Savannakhet Province in Lao PDR were assessed by comprehensive geriatric assessment compared with elderly people in West Java in Indonesia and in Vietnam. The Control of the diabetes mellitus in the elderly in Lao is future subject as the control of hypertension is the major subject in west Java. Lower prevalence of hypertension and higher one of diabetes mellitus in the elderly population in Songkhon district should be cleared in future studies.

#### Acknowledgement

We thank to all of the Provincial Health Department in Savannakhet Province, and to all of the District Health office in Songkhone District. We also express our cordial gratitude to all of the elderly people joining the medical research project.