

**Maximizing the Quality of
LIFE of the ELDERLY
through Better Health**

Shelley F. dela Vega, MD, MSc
Editor



**NATIONAL ACADEMY OF
SCIENCE AND TECHNOLOGY, PHILIPPINES**



DEPARTMENT OF SCIENCE AND TECHNOLOGY

ISSN 1655-4299

Copyright 2006. National Academy of Science and Technology
Philippines

All rights reserved. This book, or parts thereof, may not be reproduced in any form or by any means without the written permission from the copyright holder.

de la Vega, Shelley F. (Ed.). 2006. *Maximizing the Quality of Life of the Elderly Through Better Health*. National Academy of Science and Technology Philippines, Manila, Philippines, 112 pp.

Published by the National Academy of Science and Technology
Philippines

Department of Science and Technology
Bicutan, Taguig City, Metro Manila 1631, Philippines

Email: secretariat@nast.ph; nast@dost.ph.gov

<http://www.nast.ph>

Tel/Fax: (63-2) 837-3170

NAST Staff in-charge: Aristotle P. Carandang, MPS

November 2006

NAST Monograph Series No. 10

A progressive Philippines Anchored on Science

Maximizing the Quality of Life of the Elderly Through Better Health

National Academy of Science and Technology,
Philippines

November 2006
NAST Monograph Series No. 10



Foreword

Definitely, growing old is inevitable. But with rapid advances in science and the relentless pursuit of youth, there is much that is happening with the goal of deterring the ravages of aging. The search for the fountain of youth has been as old as mankind itself with many fascinating adventures, although most end pathetically.

The Philippines, having 37.6% of its population under age 15 and 47% between the ages of 15 and 49 years, is considered by social scientists worldwide, as a young population. Some years now, if our country will follow what is supposed to be the natural population cycle, these statistics will undergo a transition from a young population to an elderly population. This only means that the percentage of person age 60 and above will be greater than that of the percentage of the two categories mentioned.

Most developed and industrialized countries are intensively waging a longevity revolution and this is being fought with science and technology aimed at detecting, preventing and treating aging-related diseases. The promotion of research to understand the dynamics which can extend and improve human life is critical in order to fight diseases and disabilities associated with old age and to ensure that this period of life remains healthy, active and independent. Thus, a paper on research issues along these lines has been incorporated as a concluding paper for this publication.

This monograph includes papers written by acknowledged experts on issues and challenges of getting old in an effort to improve awareness and adoption of established preventive measures focusing on the practice of healthy lifestyles. Science-based evidence has supported that certain interventions, most of which are simple and cost-effective can not only lengthen the lifespan but can definitely maximize the health and well being of the elderly.

Perla D. Santos Ocampo, MD
Academician and President (1999-2005)
National Academy of Science and Technology

Introduction

The total number of senior citizens (60 years old and over) based on the 2000 Census of Population and Housing was 4.6 million, accounting for 5.97 percent of the 2000 Philippine population. In terms of the average annual population growth rate, the elderly population grew at 4.39 percent during the 1995 to 2000 period, higher when compared to the 1990 to 1995 growth rate of 3.06 percent. The age group of >85 years is the fastest growing segment of the Philippine Population. The aging of the Philippine population is inevitable and with it, the growing challenges to health care and national development.

With the advancement of science and technology and its consequent effects on health and life expectancy, health status can no longer be assessed purely in terms of mortality and morbidity statistics. People's perception of health and its relationship to their well-being or quality of life (QOL) become increasingly important. This is especially true among older persons where physical health is marked by chronic degenerative diseases such as heart disease, diabetes, osteoporosis, pain and cancer.

The importance of Gerontology and Geriatrics was nurtured by Dr. Perla Santos-Ocampo, when she included Aging studies in the Agenda of the National Institutes of Health from its inception. She and I have been sharing thoughts and visions of an Institute on Aging. Dr. Perla Santos-Ocampo, as the Director of the National Academy of Science and Technology requested the Committee on Aging and Degenerative Diseases to hold a round-table discussion with its senior Scientists on the topic "Improving the Quality of Life of Older Filipinos".

This monograph features the thoughts of the dedicated Geriatrics and Gerontology experts of the Committee on Aging-National Institutes of Health, University of the Philippines Manila, the Philippine Society of Geriatric Medicine, and other experts and educators in the field of Medicine. We look at specific recommendations that lead to improving our quality of life now, and as we age. The emphasis is on disease prevention, total well-being, community-based care, geriatric education and research.


Shelley F. de la Vega, MD, MSc, FPSGM
Editor
September 2005

**The Committee on Aging and
Degenerative Diseases
National Institutes of Health
University of the Philippines-Manila**

Brief History of the Committee on Aging and Degenerative Diseases

The University of the Philippines Manila is the country's leading institution for health research and development. The creation of the National Institutes of Health was approved by the Board of Regents at its 1094th meeting on 26 January 1996, and with it, the Gerontology and Disabilities Programs Cluster, through the Committee on Aging and Degenerative Diseases. The committee is composed of various physicians, academicians, and allied medical professionals within the UP-PGH system.

The COMADD is currently comprised of volunteer consultants from various Clinical and Basic Sciences Departments of the UP-PGH system:

1. Philippine General Hospital - Clinical Departments are involved through their representatives, including: Internal Medicine, Family Medicine, Surgery, Orthopedics, Rehabilitation, Neurology, Psychiatry and Nutrition.
2. UP College of Nursing – membership representation
3. UP Manila College of Arts and Sciences - membership representation thru the Department of Behavioral Sciences (Anthropology)
4. College of Allied Medical Professionals
5. College of Pharmacy
6. College of Dentistry

Mission-Vision: Institute for Aging and Degenerative Diseases

Vision

The Filipino elderly enjoying a healthy body, mind and spirit, being treated with dignity, and valued as a productive member of society, in a dynamic process unique to himself, and beginning a life of unlimited possibilities.

Mission

The institute shall create with the aging Filipino, unlimited possibilities for their value added life through scientific research, training and education, and specialized services.

Clinical Programs

The Committee on Aging and Degenerative Diseases through its multidisciplinary membership is involved in the development and management of various clinical programs within the UP-PGH system, including:

- Outpatient geriatric evaluation and wellness clinic
- Inpatient geriatric medical consultation
- Memory clinic, Department of Neurosciences
- Stroke unit, Department of Neurosciences
- Rehabilitation unit (physical, occupational and speech therapy)
- Menopause clinic
- Specialized services such as Spine/Osteoporosis care; Rheumatology clinic

Policy Development

The Committee and its members have been directly involved as technical advisers in the development of

- The Philippine Plan of Action for Older Persons, DSWD
- The Health Program for Older Persons, DOH
- Baseline Surveys for the National Objectives of Health, DOH, NIH
- Periodic Health Examination Guideline, PHILCLEN, DOH
- Alzheimer's Disease Association of the Philippines Recommendations on Diagnosis, Prevention and Management

Education

The Committee has undertaken 8 successful Post-graduate courses in Geriatric Medicine for physicians, nurses, and allied medical professions since 1997. Faculty members are involved in Gerontology and Geriatric undergraduate education in the University of the Philippines System. Consultants provide clinical teaching of nursing students, medical students, and residents in the Philippine General Hospital.

Research

The Committee and its members are involved in funding and development of essential national health researches including those that resulted in the Policy and Recommendation documents above.

List of Contributors

Araceli O. Balabagno, RN, PhD Nursing
 Member, Committee on Aging and Degenerative Diseases, NIH
 Faculty, University of the Philippines Manila – College of Nursing
 Adult Health Nursing specialty

Regina P. Berba, MD, MSc
 Member, Committee on Aging and Degenerative Diseases, NIH
 Consultant, Section of Adult Medicine, Department of Internal
 Medicine, UP-PGH
 Consultant, Section of Infectious Diseases, The Medical City

Doris Mariebel D. Camagay, MD
 Member, Committee on Aging and Degenerative Diseases, NIH
 Fellow, Philippine Society of Geriatric Medicine
 Consultant-in-charge, Geriatric Clinic, Philippine General Hospital
 Consultant in Geriatrics, St. Luke's Medical Center

Constantine D. Della, MD
 Member, Committee on Aging and Degenerative Diseases, NIH
 Diplomate, Philippine Board of Psychiatry
 Consultant, Department of Psychiatry, UP-PGH

Emanuel Gatchalian, Sr., MD
 Past President, Philippine Society of Geriatric Medicine
 Fellow, Philippine College of Physicians
 Fellow, Philippine College of Cardiology
 Director Emeritus, Geriatric Center, St. Luke's Medical Center

Cecilia A. Jimeno, M.D.
 Associate Professor, UP College of Medicine,
 Department of Pharmacology
 Clinical Associate Professor, UP PGH Section of
 Endocrinology and Diabetes
 Fellow, Philippine College of Physicians
 Fellow Philippine Society of Endocrinology and Metabolism

Lydia T. Manahan, RN, MA Nursing
 Member, Committee on Aging and Degenerative Diseases, NIH
 Member, Philippine Society of Geriatric Medicine
 Faculty, University of the Philippines Manila – College of Nursing
 Adult Health Nursing specialty

Jose Alvin P. Mojica, MD, MHPEd

Member, Committee on Aging and Degenerative Diseases, NIH
 Dean, National Teachers Training Center for Health
 Professionals
 Consultant, Department of Rehabilitation Medicine, UP-PGH

Corazon A Ngelangel, MD, MS, PhD

Professor, College of Medicine,
 University of the Philippines, Manila
 Southeast Asia Clinical Epidemiology Network
 International Clinical Epidemiology Network
 Philippine College of Physicians
 Philippine Society of Medical Oncology
 Philippine Society of Oncology
 American Society of Clinical Oncology

Laurie S Ramiro, MS, PhD

Professor, Department of Behavioral Sciences,
 College of Arts & Sciences, University of the Philippines, Manila
 Asia Pacific Network, International Forum for the Social
 Sciences in Health
 Philippine Health Social Science Association
 Southeast Asia Clinical Epidemiology Network
 International Clinical Epidemiology Network

Shelley F. de la Vega, MD, MSc

Chairperson, Committee on Aging and
 Degenerative Diseases, NIH
 Research Faculty, National Institutes of Health,
 University of the Philippines-Manila
 Fellow, Philippine Society of Geriatric Medicine
 President, Philippine Society of Geriatric Medicine
 Consultant-in-charge, Geriatric Clinic,
 Philippine General Hospital Chief, Section of Geriatrics,
 The Medical City

Luzviminda Salomon Kwong, MD

Vice-President, Pain Society of the Philippines
 Secretary, Philippine Society of Oncologists, Inc
 Member, Board of Trustees & Auditor, National Hospice &
 Palliative Care Council of the Philippines, Inc.
 Diplomate, Philippine Board of Anesthesiology
 Council Member (2004 & 2005), Asia Pacific Hospice &
 Palliative Care Network
 Anesthesiologist, St. Luke's and Medical City

Sandra A. Tankeh-Torres, M.D., M.Sc.

Clinical Epidemiologist

Fellow, Philippine College of Physicians

Fellow, Philippine Rheumatology Association

Past President, Philippine Rheumatology Association

Rheumatologist, Cardinal Santos Medical Center

Eugenio B. Reyes, MD

Chair, 2004-2005 Clinical Practice Guidelines for the

Management of Dyslipidemia in the Philippines

Ex-Officio Chairman, Council on Preventive Cardiology-PHA

Co-Chair, Committee on Research PHA

Fellow, Philippine College of Physicians

Fellow, Philippine College of Cardiology

Table of Contents

Foreword	iii
Introduction	v
The Committee on Aging, NIH	vi
List of Contributors	ix
1 The “Fountain of Youth”: Adding Years to Life <i>Shelley F. dela Vega</i>	1
2 Exercise and the Elderly <i>Jose Alvin P. Mojica</i>	5
3 Sexuality and Aging <i>Constantine D. Della</i>	17
4 Is it Worth it to Bring in <i>Lolo & Lola</i> for a Second Round of <i>Bakuna</i> ? <i>Regina P. Berba</i>	21
5 Care of the Older Person: Implication to Nursing Education and Practice <i>Araceli Ocampo Balabagno</i> and <i>Lydia Tolentino Manahan</i>	31
6 Community Resources for Older People: Are we doing enough? <i>Doris Mariebel D. Camagay</i>	37
7 Caring for Older Filipinos: Geriatric Medicine at the Crossroads <i>Emmanuel T. Gatchalian</i>	45
8 Improving the Quality of Life of Older Filipinos: Focus on Recommendations for the Prevention and Treatment of Osteoporosis <i>Sandra A. Tankeh-Torres</i>	49

9	Prevention and Treatment of Diabetes in Older Individuals <i>Cecilia A. Jimeno</i>	57
10	Quality of Life in the Health Care of Filipinos – Focus on Cancer Patients <i>Corazon A. Ngelangel and Laurie S. Ramiro</i>	65
11	Pain Management in the Elderly <i>Luzviminda Salamon Kwong</i>	73
12	Lipid Screening and Management in the Filipino Elderly <i>Eugenio B. Reyes</i>	83
13	Early Detection of Cervix Cancer in the Philippines <i>Corazon A. Ngelangel and Laurie S. Ramiro</i>	95
14	Research Issues on the Improvement of the Quality of Life of Filipino Older Persons <i>Shelley de la Vega</i>	101
	About NAST	113

1

The “Fountain of Youth”: Adding Years to Life

Shelley F. de la Vega, MD, MSc

I’m often asked to talk on how to live longer and healthier. When asked: “who among you would like to live to be a hundred?” only a few audience members would raise their hands. Modifying the question to “what if you look and feel like a 20 year-old when you reach a hundred years?” there were more takers. Yet, more of us are joining fitness clubs, popping vitamin pills, using youth creams on our faces to look young and feel young. Or is the right term young-er? Let’s clear our minds of misconceptions on how we age, and set ourselves on the right direction on how to find the “fountain of youth ”

The clock that keeps track of our years starts ticking the moment we are born. There is no escape to aging. But is there a way to increase our longevity? **Longevity** is the duration of a particular life beyond the norm for the species. It is a noun, a thing to be acquired, and desirable to many. **Lifespan** is the maximum duration of existence of a given species. Humans have a lifespan of 120 years. **Life expectancy** is the gain in survival time from a fixed time period, usually measured at the time of birth. Life expectancy depends on the genes we inherit, but 70% of this gain is something we have some control of: lifestyle, and our environment. The life expectancy of a Filipino born in 1990 is 65-67 years. Compare this to an American born in 1900: 47 yrs., and those born in 1990: 76 yrs. Women generally outlive men by 5 to 6 years.

Factors such as improvement in health, sanitation, and nutrition have led to the progressive increase in human life expectancy. The improvement in maternal and child health has led to the greatest leap in the increase of life expectancy of most developed and developing countries. Peace and order and economics also figure into the equation. Most African countries have the lowest life expectancy in the world. A child born in Angola in 2001 has a life expectancy of 28.7 years. Many communities in Mindanao have the lowest life expectancy in the Philippines. Future discoveries in disease management, prevention, and genetics will further improve longevity. It is easy to imagine that in a few decades, human life expectancy will closely approximate human lifespan.

Although there is no “cure” for death, we know that unhealthy habits lead to early demise. In the Philippines, the top leading causes of death, 65 years and older are:

1.Heart disease; 2.Cancer; 3.Cerebrovascular disease; 4.Chronic obstructive lung disease; 5.Pneumonia and influenza; 6.Diabetes; 7.Accidents.

A review of the above list reveals that many of these are preventable. Modifiable risk factors include 1. Lack of exercise; 2. Smoking; 3. Drug and Alcohol abuse; 4. Weight gain; 5. Stress; and 6. Social Isolation.

There are three large studies that show a consistent association between **social isolation, poor health and lower life expectancy**. In a study of 32,624 male health professionals, those who were *not married, had fewer than 6 friends or relatives, and did not participate in community networks* had an increased risk of death from heart disease, stroke, accidents and suicide (Kawachi, et al *Harvard Public Health Review, 2000*). In a similarly large study of American nurses (Nurses Health Study II), those with *strong relationships* had less mental decline, lived more active, pain-free lives, without physical limitation. Sweden’s Karolinska Institute concluded that women who *live alone, have no friends, or have poor relationships with their children have a 60% higher chance of developing dementia* (progressive loss of memory and function).

Preventing disease through lifestyle modification, and proper healthcare do amount to increasing your life expectancy. The best “anti-aging” medicines are free. Go through this checklist and subtract one year from your current “chronologic” age, for every

item that you practice. This is your “physiologic age.” For example, a 50 year-old who adheres to all 10 listed items is as fit as a 40 year-old!

“Anti-aging” lifestyle choices:

- No smoking!
 - Limit Alcohol intake
 - Keep learning new skills
 - Seldom snack
 - Social connectedness
 - Optimism
 - Sleep 7–8 hours a day
 - Eat breakfast
 - Exercise
- Keep your weight down (<25 kg/m²)

And for the vitamin conscious, a little bit goes a long way.

Prescription for Healthy Living (WHO and International Longevity Council)

Vitamins (from a diet with a variety of fruits and vegetables)

- * B6 4 mg
- * B12 0.01 mg
- * C 200 mg
- * E 200 IU
- * D 400 IU (or get some sun at least 15 minutes a day)
- * Folic acid 0.40 mg

Minerals: Calcium 1200(men) – 1500 (women)

Good health care is also a cornerstone for longevity. **Primary prevention** reduces the risk of disease before it occurs. **Secondary prevention** involves adequate control of disease that is already present. Both forms of prevention are cost-effective and backed by rigorous scientific studies.

Primary Prevention of Disease

- * Regular check-up
- * Immunization against flu, pneumonia, tetanus
- * Cancer screening

Secondary Prevention of Disease

- * Control hypertension
- * Lower high cholesterol
- * Weight loss for obese

How do we add “Life to Years”? Vitality and quality of life may be more valuable than longevity. Maintenance of a high level of functioning as one ages is possible. **Active life expectancy** is steadily increasing throughout the world. A 60 year-old Filipino male can expect 8 more years of healthy life expectancy, and a Filipino female, 11.7 more years. Japanese men and women have 17 and 20 more years, respectively. We can avoid early disability through the list of choices presented above.

However, beyond individual lifestyle choice, we must aim to achieve **societal longevity**. This is best accomplished by a well-funded and well-planned health care delivery system that results in reduced maternal and infant mortality, and a supportive sociopolitical environment. Finally, our quest for longevity and vitality needs to be tempered by a conviction that life is precious, even in those with disabilities, and especially in those who are frail and aged.

2

Exercise and the Elderly

Jose Alvin P. Mojica, MD, MHPEd

Introduction

Current evidence reveals that regular exercise or physical activity in persons age 60 years and older can help delay and prevent functional declines associated with aging (1). However, data from the U.S. National Health Interview Survey show that more than 50% of the elderly do not engage in any physical activity and that physical activity decreases with aging (2). These findings gain more significance when we consider that between 6–8% of the estimated 85 million Filipino population are elderly (3), the children who should be taking care of their elderly parents are probably working abroad (4), and that there are very limited medical and social services available. Thus, determination of the extent and mechanisms by which regular exercise or physical activity can improve health, independence and quality of life should be urgent national concerns.

Research Trends

Previous researches on exercise interventions in the elderly dealt with reversing age related physiologic changes such as decreased maximum oxygen consumption (VO₂max) and muscle weakness. This approach was based on the awareness that physiologic decline associated with aging were similar to those seen with physical inactivity that are reversible with exercise, which include reductions

in functional capacity, changes in body composition, bone loss, muscle atrophy and weakness, impaired balance and coordination, anxiety and depression. Current studies now also consider effects of exercise on limitations in physical function and disability associated with aging and chronic diseases (5, 6).

An important question then arises with the use of physical exercise – How trainable are the elderly? Studies show that those who had been least active made the greatest gains. The trainability of older persons with respect to physical work capacity is probably greater than had been suspected and does not depend on having trained vigorously in youth (7).

Benefits of Exercise

There is unanimous agreement that regular exercise is essential for optimum function of the human body and that disease prevention is vital in the preservation of health in elderly individuals. Physically active adults are more likely to reach the age of 80 years compared to their sedentary counterparts, and do so with half the risk of dying with disability (8). Table 1 summarizes the benefits of exercise in various chronic diseases (9).

Gage (10) categorizes the benefits of physical activity for the elderly into two domains: 1) functional improvement and 2) risk reduction (Figure 1). In one domain, exercise leads to functional improvement by increasing muscle strength, endurance, balance and coordination, bone health, cardiovascular as well as psychological and emotional states. On the other hand, exercise improves immune function which decreases the risk of disease and physical impairment.

Screening Prior to Exercise Prescription

Careful evaluation is required prior to establishing a safe yet effective exercise training schedule. In addition, screening could aid in identifying medical problems that would require modification of the exercise program as well as the limitations of exercise (5). Among disorders that may be seen in the elderly that should be thoroughly evaluated before and closely monitored during exercise training are anemia, hypoglycemia, diuretic-induced hypokalemia, previously undiagnosed heart murmur, tachy- and bradyarrhythmias, undiagnosed carotid bruit, hernia and cognitive impairment. Orthostatic hypotension, impaired equilibrium, peripheral neuropathy or other sensory impairment indicate increased potential for gait problems and falls. Hypertension, coronary and peripheral vascular disease, and arrhythmias should be adequately controlled. Degenerative joint disease is common in this age group so that joint

Table 1. Exercise Benefits in Disease.

Disease or Syndrome	Suggested mechanism of exercise effect
Arthritis	Maintenance of cartilage integrity Decreased body weight Maintenance of muscle & tendon strength
CHF	Decreased BP & MI risk
Depression	Increased self-efficacy Decreased depression Decreased anxiety, improve sleep Improved self-esteem Decreased body fat and improved body image
Frailty, disability	Increased muscle mass & strength Increased nutrition intake Improved protein utilization from the diet
Mobility Impairment & Falls	Increased strength & muscle mass Improved balance & gait stability Decreased fear of falling & depression Decreased fat mass & body weight
Stroke	Decreased BP, cholesterol and obesity
Osteoporosis	Increased bone density & tensile strength Increased muscle mass Improved nutritional
Type 2 Diabetes	Improved insulin sensitivity and dyslipidemia Improved glucose tolerance occurs before decrease in abdominal obesity Increased muscle mass Increased GLUT-4 protein Reduced visceral fat mass Decreased cortisol response to stress Decreased BP
Urinary stress Incontinence	Improved pelvic floor muscle strength

stability must be assessed and physical activity should be adjusted accordingly (11). Since physical training has the potential to interact with medications, initial evaluation should review medications and when appropriate adjusted as necessary. Interestingly, although there is an overall increased risk of sudden death associated with physical exertion, the risk is small (12).

It may be prudent to do an exercise test prior to starting a moderate to vigorous exercise program even for the apparently healthy older person because of the high prevalence of asymptomatic coronary artery disease in the elderly (13). A treadmill or bicycle ergometer stress test is often used. If this is not possible, a walk test may be considered (3, 14). However, moderate aerobic and strengthening exercises may be started without stress testing if the elderly individual begins slowly and gradually increase his level of activity.

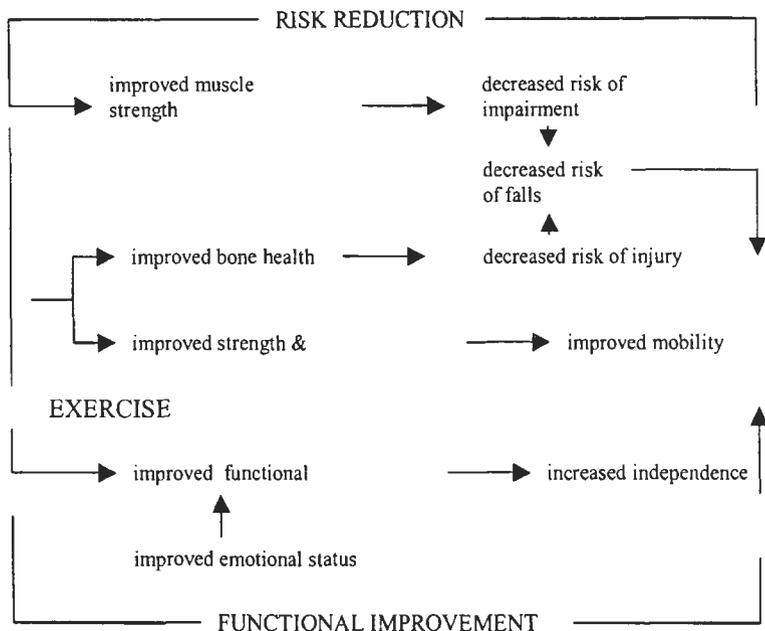


Fig. 1. Improvement in function and risk reduction will in turn improve the elderly person's quality of life.

The contraindications to exercise testing and exercise training for older men and women are the same as for young adults (1). The major absolute contraindications precluding exercise testing are recent ECG changes or myocardial infarction, unstable angina, uncontrolled arrhythmias, third degree heart block, and acute congestive heart failure (1). The major relative contraindications for exercise testing include elevated blood pressures, cardiomyopathies, valvular heart disease, complex ventricular arrhythmias, and uncontrolled metabolic diseases.

Classification of the Elderly

The World Health Organization (WHO) classifies the elderly population into 3 groups based on fitness, health, and independence (2):

Group I: Physically fit, healthy and independent. These individuals regularly engage in physical activity and can perform all activities of daily living (ADL) independently. The goal of the exercise program for this group is to prevent disease and disability.

Group II. Physically unfit and unhealthy but independent. These individuals live independently, can perform all ADLs but do not engage in physical activity. Chronic disease and musculoskeletal frailty is present and exercise is necessary to prevent disability.

Group III. Physically unfit, unhealthy and dependent. These individuals are totally dependent on others because of a variety of physical and psychological factors. They have high levels of disability, disease and co-morbidity. The goal of exercise for this group is to minimize dependence or restore independence in ADLs.

The Exercise Prescription

How much and what type of exercise or physical activity is enough to promote fitness and conditioning and maintain a healthy lifestyle?

The main components of the exercise prescription involves the intensity, duration, frequency and mode of exercise. The intensity of training can be calculated several ways. It could be derived as a percentage of the maximum work capacity during a stress test. Exercise performed as low as 30–45% of the maximum work capacity among sedentary elderly individuals has elicited increases in aerobic capacity (15). Another method of exercise prescription is based on the heart rate reserve (HRR), calculated by subtracting the maximum heart rate (MHR) from the resting heart rate (RHR) (3). A training response occurs when 30–45% of the heart rate reserve is added to the resting heart rate. The following example illustrates the training heart rate range for a 65 year old individual with a resting heart rate of 75 beats/min:

1. Maximal Heart Rate = 220 minus age in years
 $220 - 65 = 155$
2. $MHR - RHR = \text{Heart Rate Reserve (HRR)}$
 $155 - 75 = 80$
3. Determine 30% and 45% of the HRR and add to the RHR
 $30\% \times 80 = 24$; $45\% \times 80 = 36$
 $75 + (24 \text{ to } 36) = 99 \text{ to } 111$
4. Target Heart Rate Range = 99 to 111 beats/min

So as to provide a guide to the intensity of exercise, exercisers can take their pulse during the first 10 seconds after ceasing activity since heart rates fall off rapidly and be taught to adjust the intensity of exercise if palpation shows a heart rate below the training level. For example, if the exercise is walking, a faster pace is adopted. Conversely, if the heart rate is above the target heart rate range, the intensity is reduced. Initially, calculations of actual heart rate

should be checked by a trained person. Also, lower heart rate intensities should be used at first because of the elderly's limited functional ability.

In the elderly with angina or significant ST-segment depression during exercise, the heart rate at the onset of significant signs or symptoms of myocardial ischemia is termed the clearance heart rate and used to calculate intensity (16). In this case, the intensity of exercise is maintained at 10 to 15 beats below the clearance heart rate.

The use of the heart rate as a measure of exercise intensity is unreliable in those with coronary artery disease or hypertension on beta-blocker or other medications that may attenuate the heart rate. Instead, Borg's Rate of Perceived Exertion Scale is being widely used at present (Table 2).

Using the RPE, a subjective feeling of exertion is graded numerically by the exerciser. The individual usually trains in a range from 12 to 17 but lower levels of intensity can result in some training adaptation for the elderly.

Table 2. Original Rate of Perceived Exertion Scale

Category	RPE
6	
7	Very very light
8	
9	Very light
10	
11	Fairly light
12	
13	Somewhat hard
14	
15	Hard
16	
17	Very hard
18	
19	Very, very hard
20	

The metabolic equivalent (met) may also be used to monitor levels of intensity. The metabolic requirement of an activity can be expressed as met where 1 met equals 3.5 ml/kg/min which is the oxygen consumption of an individual lying supine and at rest. Recreational and vocational activities can then be expressed by their absolute energy requirements and specific activities can be prescribed as they relate to a percentage of maximal capacity.

A simple estimate of exercise intensity is the ability to talk during exercise or physical activity. Another increasingly popular measure of intensity is the use of a pedometer, a gadget strapped to the thigh which measures the number of steps taken by a person per day. However, accepted standards for the use of the pedometer, particularly for the elderly, have not been defined.

In terms of strength training, a weight that will allow 8–10 repetitions through the range of joint motion is presently recommended (5).

The average duration of exercise is usually 30 minutes but it can be increased to 60 minutes depending on the intensity of the exercise. Previously sedentary individuals may not be able to sustain 30 minutes of continuous exercise at the onset of the program. The required prescription is then broken into several feasible segments of vigorous effort, e.g. 5–10 minutes per bout with alternating periods of rest or light activity. Elderly individuals also do well with circuit training, one or two minute periods of light activity being interspersed with 5 minute bouts of exercise at several different tasks. As the level of adaptation improves, the duration then the intensity of the individual exercise program can be progressively increased.

Depending on the intensity and duration, 3 to 5 sessions per week can enhance cardiovascular function. Strengthening exercises, on the other hand, may be done 2 to 3 times per week.

The choice of physical activity should be individualized and based on the elderly person's preference, health status and desired goals. A person is usually motivated to exercise if the activity is seen as rewarding, e.g. as a means to decrease physical dependency. Rather than attempting to introduce the very old person to novel forms of physical activity, it is desirable to build on previous habits, using existing skills and equipment. Much of the recommended activity can also be built into the normal day, e.g. the walk to church

or the neighborhood bakery to buy *pan de sal*. Potential barriers such as the lack of suitable companion or absence of transportation must be recognized and overcome. The ideal program includes: 1) Warm-up consisting of proper stretching and flexibility exercises and/or light calisthenics to minimize risk of inducing cardiac arrhythmias or musculoskeletal injuries; 2) Strengthening of major muscles can offset the loss of muscle mass through muscle hypertrophy and increased motor unit recruitment and thus, help in the performance of activities of daily living; 3) Endurance exercises which promote rhythmic dynamic movements of large muscle groups to sustain functional activities; 4) Balance and coordination exercises to help minimize fall injuries; and 5) Cool down, with activities similar to warm-up, to prevent pooling of blood in the extremities after moderate exercise which may result in hypotension, vertigo, syncope and/or nausea (1,2,3,5, 17).

Bean, Vora and Frontera (5) summarized exercise recommendations for 5 most common chronic conditions in the elderly which contribute to functional loss and disability (Table 3). All recommendations assume that the patient has successfully passed appropriate screening and monitoring procedures to assess safety for independent exercise.

Exercise Guidelines

To ensure safety and minimize risks associated with exercise, the following guidelines are recommended (3):

1) In the beginning, the elderly patient may be discouraged by an increased amount of muscle and joint soreness. This is to be expected, and the elderly individual should probably start with a more gradual regimen and understand that adaptation takes time, extended effort, patience, and commitment. Wearing proper and comfortable footwear with rubber outsoles and good traction is essential.

2) Avoid eating substantial amounts of food for approximately two hours before and one hour after exercise.

3) Elderly individuals must carefully guard against dehydration. Exercise should be done on the cooler parts of the day. Exercise or physical activity inside air-conditioned shopping centers is encouraged.

Table 3. Recommendations for Independent Exercise, By Medical Condition

Conditions	Recommendations
Osteoarthritis, cardiovascular disease, diabetes	<p>Strength Training</p> <p>2-3 times weekly at 13-17 on the Borg Scale</p> <p>2-3 sets of 8-10 repetitions</p> <p>Greater strength gains will be achieved at higher Borg Scale ratings</p> <p>Aerobic training</p> <p>Examples: walking, biking, aquatic exercise</p> <p>2-3 times weekly</p> <p>Progress up to 30-40 min</p> <p>11-13 on the Borg Scale</p>
Respiratory disease	<p>Train both upper and lower extremities separately at 60% exercise-tested maximal work capacity, which is roughly equivalent to 11-13 on the Borg Scale</p> <p>Upper-body exercises include arm ergometry, canoeing, swimming, low-resistance high-repetition weight lifting</p> <p>Lower-body exercises include walking, stationary bicycling, stair climbing</p> <p>Perform exercise 3-5 times weekly progressing to 30-60 min/session</p> <p>Self monitor dyspnea</p>
Stroke	<p>Strength Training</p> <p>2-3 times weekly at 13-17 on the Borg Scale</p> <p>2-3 sets of 8-10 repetitions</p> <p>Greater strength gains will be achieved at higher Borg Scale Ratings</p> <p>Aerobic training</p> <p>Treadmill walking at normal gait speed or slightly faster</p> <p>More impaired subjects may benefit from supported treadmill walking 2-3 times weekly</p> <p>Progress to 30-40 min</p> <p>11-13 on the Borg Scale</p> <p>Task-specific training</p> <p>Perform functional tasks such as rising from chair, climbing stairs, squatting</p> <p>Progress to 2-3 sets of 18-10 repetitions</p>

Table 3. Continued.

Conditions	Recommendations
Osteoporosis	<p>Strength Training</p> <p>2-3 times weekly at 13-17 on the Borg Scale</p> <p>2-3 sets of 8-10 repetitions</p> <p>Note greater strength gains will be achieved at higher Borg Scale ratings</p> <p>Specific attention to spinal extensors is important</p> <p>Aerobic exercise</p> <p>Only strenuous aerobic exercise, including combinations of fast walking, stair climbing, jogging, or calisthenics have been shown to be beneficial</p>
Falls, poor balance, and mobility problems	<p>Strength Training</p> <p>2-3 times weekly at 13-17 on the Borg Scale</p> <p>2-3 sets of 8-10 repetitions</p> <p>Note greater strength gains will be achieved at higher Borg Scale ratings</p> <p>Aerobic training</p> <p>Examples: walking, biking, aquatic exercise</p> <p>2-3 times weekly</p> <p>Progress up to 30-40 min</p> <p>11-13 on the Borg Scale</p> <p>Dynamic exercise</p> <p>Tai Chi</p> <p>High Velocity training: exercise with concentric component performed as quickly as possible to augment muscle power</p> <p>Examples: repeated performance of leg exercise on exercise machines or common functional tasks such as chair rise or climbing a step.</p>

4) All exercise sessions should be preceded by a gradual warm-up and terminated with a full cool down period.

5) Care should be taken not to take excessively hot showers or baths as these can be deleterious to cardiac function and may precipitate a syncopal episode.

6) Refrain from exercising when ill. Exercise may potentiate dehydration because of elevated body temperature and increased sweating.

7) Know when to stop exercising: Unusual discomfort, shortness of breath, chest pain or palpitations require immediate termination of exercise and medical consultation.

8) If the elderly has impaired vision, exercise should be done in well-lighted, flat-surfaced and non-slippery areas where the risk of falling is reduced. Elderly individuals with impaired hearing should exercise in non-trafficked areas.

Monitoring

Regular monitoring of exercise adaptation is recommended to adjust the exercise program. This may be done through a regular follow-up evaluation, an exercise stress test every 3 to 6 months and monitoring strength and balance parameters. Remember to praise and positively reinforce even slight improvements. Lack of progress should be investigated for possible health status problems or lack of compliance.

More research on proper exercise and activity prescription needs to be done specially among Filipinos where no comprehensive baseline study has been done on exercise in the elderly.

References

1. ACSM Position Stand on Exercise and Physical Activity for Older Adults. *Med Sci Sports Exerc* 1998; 30:992-1008.
2. Ramsey AP: Exercise and the Elderly. Available at www.cyberounds.com.
3. Mojica JAP: Exercise Prescription in the Elderly. *The Medical Journal of De La Salle University*, 1992; 8: 3-14.
4. Mojica JAP: Global Health Future. In: Mencias CF and Mojica JAP eds. *Global Issues and Health Professions Education: Monograph*. Manila: National Teacher Training Center for the Health Professions; 2004. p 9-13.
5. Bean JF, Vora A, Frontera WR. Benefits of Exercise for Community-Dwelling Older Adults. *Arch Phys Med Rehabil* 2004;85(Suppl3):S31-42.

6. Hala EM, Bell K. Immobility: Physiological and Functional Changes and Effects of Inactivity on Body Functions. In: De Lisa JF and Gans BM eds. *Rehabilitation Medicine: Principles and Practice*, 3rd ed. Philadelphia: Lippincott-Raven Publishers; 1998. p 1015-1034.
7. de Vries HA. Physiologic effects of an exercise training regimen upon men aged 52 to 88. *J Gerontol* 1970; 25:325-336.
8. Leveille S, Guralnik J, Ferrucci L, Langlois J. Aging successfully until death in old age: opportunities increasing active life expectancy. *Am J Epidemiol*. 1999; 149:654-664.
9. Ramsay AP. Exercise and the Elderly. Available at www.cyberounds.com/conf/geriatrics/2003-03-05/entry.html.
10. Gage W. Exercise for the Elderly and Frail. Available at www.oltea.com/staging/Library/Exercise.
11. Rousseau P. Exercise in the Elderly. *Postgrad Med* 1989; 85:113-116.
12. Friedewald VE Jr, Spence DW. Sudden cardiac death associated with exercise: the risk benefit issue. *Am J Cardiol* 1990; 66:183-188.
13. American College of Sports Medicine. Guidelines for exercise testing and prescription. Baltimore: William and Wilkins; 1995.
14. Magabo MJ, Pesigan HP, Cipriaso CC, Mojica JA. Comparison between the cardiovascular responses of the 6-minute walk test and that of treadmill testing in patients undergoing cardiac rehabilitation (Abstract Online). *Arch Phys Med Rehabil*, 2003; 84 (9): E9-E10.
15. Shephard RJ. The scientific basis of exercise prescribing for the very old. *J Am Ger Soc* 1990; 38: 62-70.
16. Wolfel EE, Hossack KF. Guidelines for the exercise training of healthy elderly individuals and elderly patients with cardiac disease. *J Cardpulm Rehabil* 1989; 9:40-45.
17. Nied RJ, Franklin B. Promoting and prescribing exercise for the elderly. *Am Fam Physician* 2002; 65:419-426.

3

Sexuality and Aging

Constantine D. Della, MD

Majority of older men and women continue to enjoy themselves sexually, have a sense of experiencing affection, and consider sensual pleasure rewarding. Society, however, has created negative attitudes about sexuality in older persons and these attitudes have led to stereotypes. The sexuality and sexual needs of elderly people have, therefore, become frequently misunderstood, condemned, ridiculed, repressed, and ignored. Older people are believed to be devoid of sexual desires or sexual activity; sexual intercourse is harmful to their state of physical fragility; they are physically unattractive and, therefore, sexually undesirable; and the whole notion of sexuality among older people is shameful and perverse. Older people who openly express sexual desires are, thus, considered as “dirty old men or women,” ugly and desperate, sinful, exaggerating, or deviant. One reason for this negative attitude is the belief that age brings dignity, a dignity that is tarnished by sexuality (Hooymann and Kiyak, 2002; Stuart-Hamilton, 2000; Belsky, 1999; Butler, Lewis, and Sunderland, 1998; Schaie and Willis, 1996; Alexander and Allison, 1995; Kart, 1994; Kermis, 1986).

These negative societal views cause older people to unnecessarily withdraw from all forms of sexual expression even if they do not need to (Hooyman and Kiyak, 2002; Stuart-Hamilton, 2000). Other reasons for such social withdrawal behavior of older people include the physiological changes associated with age, medical illnesses, and medications affecting sex drive (Stuart-Hamilton, 2000; Kart, 1994).

Society regards sexuality as a monopoly of the younger generation. This bias is also evident in the scientific community, where research on sexuality is focused mainly on the younger generation. Although few studies with older people have been made, these have shown that sexual activity, in its broadest sense, is necessary in order for older adults to feel alive, to reaffirm their identity, and to communicate with their partner. Majority of older people, therefore, continue to remain sexually interested and/or active. Age-related physiological changes that prevent continued sexual enjoyment and activity in old age have been found to be few. In general, sexually active older people report great satisfaction in whatever sexual activity they indulge in (Hooyman and Kiyak, 2002; Schaie and Willis, 1996; Kermis, 1986).

Older people do engage in sexual intercourse less often but it is not necessarily less meaningful than at a younger age. Furthermore, most older people do not put emphasis on sexual intercourse. Non-intercourse aspects of love such as kissing, caressing, tender gestures, and love talk predominate and become more important in old age (Butler, Lewis & Sunderland, 1998; Kermis, 1986). Stuart-Hamilton (2000) argued that sexual drives differ markedly between individuals and it is wrong to assume that there is a "correct" level of sexual activity. He even raised the issue of whether sexual activity is necessary at all for successful aging to occur. The level of sexual activity is dependent on the level of sexual activity in early adulthood (Stuart-Hamilton, 2000; Kart, 1994).

It was noted earlier that there is a dearth of literature on sexuality and aging. Aside from this problem, Stuart-Hamilton (2000) identified several other problems encountered in studying sexuality in older people. The first problem involves what he called the cohort effect. This assumes that older people were brought up in less

permissive times which did not provide them with the comfort and vocabulary to talk about sexual issues. They, therefore, tend to provide less information, not because they have sex less often, but because they are less willing to talk about it. Secondly, there is a problem on defining what constitutes "sex." If sexual intercourse is taken as the only measure of sex, older people may show a greater decline in activity than if a wider range of activities is considered. Thirdly, many older people lack the opportunity for sexual activities. Women, on the average, outlive men, thus, there are more older women than men. Consequently, older women's opportunities for heterosexual contact are diminished and activity may cease not because of lack of capability or willingness but because of a lack of a suitable partner. For men, the biggest problems are usually the inability to sustain an erection and/or lacking the physical stamina for intercourse. And finally, health professionals may undervalue or ignore older people's sexuality. This may be one reason why a generally high proportion of cases of sexual dysfunction in older adults remain untreated. If sexuality offers older people many psychological advantages, then these problems must be addressed in order that more knowledge could be obtained about sexuality and aging.

Conclusions and Recommendations

Sexuality in older people does not need to be hinged on orgasmic potential or physical factors. New definitions of sexuality hinged on pleasuring and sensuality have to be developed (Alexander and Allison, 1995). In this way, the sense of intimacy and the sense of self of the old adult could gain new meaning and essence. What strategies and interventions could be developed and implemented to attain this? How could such strategies and interventions be designed in order to be culturally sensitive? In the Philippines, as in other parts of the world, there is so much to be done in the area of sexuality and aging vis-à-vis research, training and service. In the field of research, initial efforts may focus on the following areas of study among Filipino old people: (1) concepts and patterns of sexuality; (2) psychological, socio-cultural, and spiritual determinants of myths and fallacies about sexuality and aging; (3) prevalence of and biopsychosocial factors associated with sexual disorders; and (4) diagnostic and treatment processes in sexual disorders. In the fields of training and service, there is a need to implement educational

strategies geared toward a better understanding and appreciation of sexuality and aging in the medical and lay sectors of society. Schools must integrate this important subject matter in their curricula. The media must exercise its power in propagating this educational campaign. People in the helping professions must arm themselves with the adequate and appropriate knowledge, skills, and behavior that are necessary in addressing sexuality issues of Filipino old people. Medical institutions, in particular, must be equipped with biological and psychological interventions that are designed to address sexuality-related problems or disorders among Filipino old people.

Ultimately, everyone must be educated about the normal biological and psychological changes attendant to aging. The myths and fallacies of sexuality in older people must be abandoned. Older people who need help in dealing with sexuality-related issues and problems must be cared for. After all, the expression of one's sexuality contributes to one's personal and social meaning.

References

1. Alexander, E. A. and Allison, A. L. (1995). Sexuality in Older Adults. In Reichel, W. (Ed.) Care of the Elderly: Clinical Aspects of Aging. USA: Williams and Wilkins.
2. Belsky, J. (1999). The Psychology of Aging: Theory, Research, and Interventions. USA: Brooks/Cole Publishing Company.
3. Butler, R. N., Lewis, M. I., and Sunderland, T. (1998). Aging and Mental Health: Positive Psychosocial and Biomedical Approaches. USA: Allyn and Bacon.
4. Hooyman, N. R. and Kiyak, H. A. (2002). Social Gerontology: A Multidisciplinary Perspective. USA: Allyn & Bacon.
5. Kart, C. S. (1994). The Realities of Aging: An Introduction to Gerontology. USA: Allyn and Bacon.
6. Kermis, M. D. (1986). Mental Health in Late Life: The Adaptive Process. USA: Jones and Bartlett Publishers, Inc.
7. Schaie, K. W. and Willis, S. L. (1996). Adult Development and Aging. USA: HarperCollins Publishers Inc.
8. Stuart-Hamilton, I. (2000). The Psychology of Ageing: An Introduction. U.K.: Jessica Kingsley Publishers Ltd.

4

Is it Worth it to Bring in *Lolo* & *Lola* for a Second Round of *Bakuna*?

Regina P. Berba, M.D., M.Sc.

One can hardly recognize that it is *Lola Marina* who is now in Bed 10 of the Intensive Care Unit. She is 72 years old and diagnosed to have High Risk Community Acquired Pneumonia. Her illness was quite sudden with only two days of fever and chills and some on and off cough. The doctor was patiently asking questions about *Lola*. Yes, she has been previously healthy with no apparent major illnesses in the last five years. Yes she does take a vitamin pill everyday. “Did she have her immunization for pneumonia and flu?” the Doctor finally asked. *Lola*’s children shrugged in awe at the discovery that there was immunization that perhaps *Lola* should have had. “Should we have sent *Lola* for immunization?” the children asked.

At another part of the city, 58 year old *Lola Flora* is on her routine trip to her thrice a week dialysis session. She has been on dialysis for the last five years because of diabetes. At the dialysis center new reminders on the wall announce that the flu season is fast approaching and that patients with chronic renal failure would benefit from a flu shot. “Should I arrange for *Lola* to get a flu shot?” her daughter is wondering.

It is the 67th birthday of dear *Lolo Emon!* He woke up very early this morning and doing his usual calisthenics with the television on. The TV host is talking about taking care of your elderly loved ones by “good food, exercise and proper immunization...” And he asks his working son, “Shouldn’t I get one of those vaccines?”

The correct answer to all the above queries is a resounding YES!!! And yes, just like in babies who we bring regularly without fail to their pediatricians for a series of shots, our elderly persons are now encouraged to follow a schedule for immunization. Some of our lolo’s and lola’s would probably shriek in disbelief. “A second time around for “bakuna”? And our answer should be a reassuring “Yes” and that, just like in babies, this is what is best for them.

Unfortunately, unlike the first series of active immunization recommended to infants given at the first months of life, immunization for the adult and especially for older persons has not received as much avid attention from policymakers, prescribing physicians and patients themselves. The usage of adult immunization has remained modest to low over the years even with the turn of the 21st century. After a decade of recommendations, this experience of underuse is seen worldwide, but more so in areas where other health priorities of treatment rather than prevention dictate use of limited resources. Perhaps this is so because this is a fairly recent development introduced in the early 1990s, or perhaps because of the cost and the anticipated pain and discomfort with the immunization, or simply because this preventive aspect of care is shelved out as we have too many other more important concerns.

But why should we indeed send *Lolo and Lola* for their shots at such as late age? Is there benefit? Are there risks? What types of vaccines?

Many international and local health societies including the Philippine Society of Microbiology and Infectious Diseases (or PSMID) take the lead in providing recommendations for immunization for older persons. Two vaccines are highly recommended for persons aged 60 and older population and these are: 1) the Influenza vaccine to be given on an annual basis; and 2) the Pneumococcal vaccine to be given usually on a one-time basis. These two vaccines address two important diseases which are seen frequently in the Philippines: influenza and pneumonia.

Vaccine Preventable Diseases among the Elderly

Influenza and **pneumonia** consistently rank among the top ten leading causes of morbidity in our country. Influenza or “flu” or the dreaded “trangkaso” is the fourth leading cause of reported morbidity at 674 cases per 100,000 population (1). There are no estimates on the exact contribution of influenza to mortality in our country. In the 1997 Philippine Health Statistics, pneumonia and other diseases of the respiratory system ranked third and eighth respectively among the top ten causes of mortality (2). One can make a very conservative guess that at least some of the deaths from pneumonia and other respiratory system diseases were secondary complications of the influenza infection. In the USA, the Centers for Disease Control reported an average of 20,000 to 40,000 deaths per year from influenza, with mortality encountered primarily in the elderly³. Hospitalization costs in the US due to complications of influenza soar up to \$750 million to \$1 billion dollars.

Pneumonia or “pulmonya”, on the other hand, ranked third in the leading causes of morbidity with an incidence of 908 cases per 100,000 population (1). Pneumonia ranked third in the leading causes of mortality in the Philippines (2). One of the most common etiologic causes of pneumonia particularly in the elderly population is *Streptococcus pneumoniae*. It is this subset of community acquired pneumonias that the pneumococcal vaccine can address. Aside from pneumococcal pneumonia, invasive pneumococcal infection can also be manifested as bacteremia (blood infected with bacteria) or meningitis. This infection is serious and usually requires hospitalization in elderly patients. The risk of death is high in invasive disease translating roughly as follows: one person will die out of every 20 people with pneumococcal pneumonia, two will die out of every 20 with pneumococcal bacteremia, and three will die out of every 20 with pneumococcal meningitis.

Clinical Picture among the Elderly

Influenza is an acute febrile illness caused by the influenza virus. Usually the person with flu would have high fever with chills, cough, severe muscle aches, sore throat and headache. The onset is usually abrupt. A person previously well may come down with very high fever suddenly without much prodrome. Initially patients will appear very ill with flushed face, hot skin, watery eyes and a clear nasal discharge. In elderly patients, high fever may be accompanied by confusion and marked weakness. In otherwise healthy individuals, the fever of the flu typically lasts for 3 days, after which respiratory

symptoms such as cough may persist for a few more days. Full recovery may take 1 to 2 or more weeks. This disease is called self-limited because more often than not, the ill individual will get better even if he or she does not receive clear definitive treatment such as antibiotics. Physicians and other caregivers would advise “Rest, lots of fluids and a great deal of tender loving care.” New anti-viral agents such as oseltamivir may reduce the number of days of illness.

The elderly patient, however, may not follow the typical uncomplicated course. The occurrence of complications after influenza, particularly of respiratory problems, progressively rises after the age of 60 years. The more common and serious complications include viral pneumonia, secondary bacterial pneumonia, and exacerbation of chronic respiratory diseases like chronic obstructive pulmonary disease. These usually lead to hospitalization and even death.

Pneumococcal disease, on the other hand, may present as infections of the middle ear, sinuses, upper and lower respiratory tracts, central nervous system, heart valves, bones, joints and peritoneal cavity. Pneumococcal pneumonia is the most common syndrome with cough, purulent sputum and fever as the most frequently observed manifestations. Some elderly patients found to have pneumococcal pneumonia may not have these typical symptoms and instead just have weakness, confusion and hypothermia.

Efficacy of Immunization among the Elderly

At this time, the influenza vaccine is recommended for all individuals 50 years and older. Two types of vaccines are available for immunization against influenza. Inactivated influenza is available and given as an intramuscular shot into the deltoid area of the upper arm. A newer type of vaccine with live weakened virus to be delivered as a nasal spray was approved in the US only in 2003.

The efficacy of the influenza vaccine in the elderly population was best shown by the meta-analysis of Gross 1995 which put together 20 cohort studies (4). Pooled estimates of the efficacy of the influenza vaccine were as follows: 56% (95% Confidence Interval [CI], 39%, 68%) to prevent respiratory illness; 48% (95% CI, 28%, 65%) to prevent hospitalization; and 68% (95%CI, 56%, 76%) to prevent mortality. A large cohort study in Sweden involving more than 100,000 elderly individuals 65 years and older reaffirmed previous benefits of vaccine (5). Compared to unvaccinated

individuals, hospitalization for influenza was reduced by 45% (95%CI 34%, 56%) and mortality from all causes was reduced by 53-57%.

Severe adverse reactions from the inactivated influenza vaccine are rare. A local reaction around the injection site is expected with redness and tenderness during the first three days. There are no definite contraindications for immunization except for known allergy to hens' eggs, in which the vaccine was developed. Because the vaccine in the inactivated type contains killed virus, there is no risk of developing flu after flu shot.

In the Philippines, the Influenza vaccine Southern hemisphere strain should be given from February to June in preparation for the rainy season during which influenza cases peak. Aside from the elderly population, those directly taking care of elderly patients (ie healthcare workers in nursing homes) and direct contacts (i.e. household or family members) are also encouraged to have the annual influenza vaccine.

The pneumococcal vaccine is recommended for all persons 60 years and older. This vaccine is a 23-valent capsular polysaccharide derived from the 23 pneumococcal capsular types that account for most bacteremic pneumococcal infections in adults. The attack rate of invasive pneumococcal infection begins to increase at about age 50 and rises sharply at age 65. Although vaccination will not guarantee 100% protection for all vaccines, it has shown benefit. Certain conditions put some elderly patients at even higher risk for pneumococcal infection. Such conditions include chronic renal failure, nephrotic syndrome, chronic cardiac conditions, chronic liver diseases, chronic cardiopulmonary diseases and diabetes mellitus, and immunosuppressive conditions like sickle cell disease, splenic dysfunction or anatomic asplenia (eg, surgical splenectomy), leukemia, Hodgkin's disease, lymphoma, multiple myeloma, systemic lupus erythematosus, HIV infection, generalized malignancy, chronic steroid use and organ or bone marrow transplantation. Several studies have shown varying results regarding efficacy of the vaccine according to the clinical outcome of interest.

The pneumococcal vaccine is given as a one-time dose for persons 65 and older. A one-time revaccination after five years is recommended in patients with the above mentioned chronic diseases and/or chronic immunosuppressed states. Revaccination after five years is also recommended if the first dose is given before the age of 65 years.

Barriers that Limit Full Potential of Immunization in the Elderly

Together with the very brief overview on influenza and pneumococcal disease and vaccine given above now comes the strong appeal for action from each and every reader. Let's look at some possible barriers that may be present in our setting that explains why there is underuse of the vaccines for the elderly:

Patient Factors

1. Lack of knowledge regarding the availability and efficacy of vaccines for adults and the elderly
2. Fear of side effects and adverse reactions
3. Misconception about risk for infections
4. No funds for vaccine
5. Not priority in list of health problems

Physician Factors

1. Uncertainty about who is at risk for the disease and who qualifies for vaccines
2. Fear of side effect and adverse reactions
3. No system in place for adult vaccination (clinics not equipped with vaccination needs and personnel)
4. No reimbursement for vaccination service
5. Fragmented care : "It's not my turf to worry about patient's vaccination"
6. Misconception that responsibility of immunization belongs to the internist or the family physician.

Professional Society/Organizational/Community/Hospital Factors

1. Full priorities usually only on treatment of disease rather than on disease prevention
2. Lack of initiative to have an organizational stand/ statement/ policy regarding immunization for the elderly
3. Lack of comprehensive healthcare related programs for the elderly
4. Lack of appreciation for the magnitude of morbidity and mortality due to vaccine-preventable diseases in adults particularly the elderly
5. Limited data on knowledge, attitudes and practices of patients and providers on immunization

6. Lack of local data on the morbidity and mortality of vaccine-preventable disease in specific high-risk groups and communities
7. Lack of local updated data on vaccine efficacy, safety, and cost-benefit estimates
8. A perceived lack of leadership to orchestrate adult immunization specially for the elderly on a national basis
9. A need for a systematic delivery of safe and affordable vaccines
10. Need to address source of funding to support any immunization program.

The list of barrier can go on and on depending on how many your sources are and how extensive your exploratory questions are.

Improving Quality of Healthcare in the Elderly thru Immunization

Finding solutions to make immunization more available, more acceptable and more affordable to the elderly individuals could be an avenue to improve the overall quality of healthcare among this group. These solutions can be approached at different levels depending on one's affiliations as follows:

National Level

1. Establish conceptual framework regarding immunization
2. Define scope of priorities that the national level can and wants to take: research, policy, implementation, budget
3. Define standard of care
4. Develop national practice guideline
5. Design a public dissemination campaign targeting both prescribers and potential vaccine users.

Society/Organizational/University Level

1. Create a taskforce to review available data and make evidence-based recommendations as to what the organization can take as a priority project or program depending on organization's stakeholders/groups at risk are and resources available
2. Provide expertise to the community through educational programs and materials for both patients at risk and physicians.

Hospital/Clinic/Health Center Level

1. Identify to whom, how and when immunization will be done and have these written as a hospital/clinic policy
2. Create a system so that missed opportunities to vaccinate are reduced: i.e. Reminders, checklists, problem lists.
3. Involve as many personnel as necessary and available so that many areas of patient care are included: out-patient care, discharge from hospitalization, specialty referrals, post-operative care.
4. If necessary centralize adult vaccination services of your hospital in one clinic to which practicing doctors within the hospital and from the community can send patients to.
5. Include support services like the Pharmacy to coordinate and centralize procurement of vaccines and get the most affordable deals.
6. Prepare brochures which address frequently asked questions on vaccination for patient use while waiting.

Individual Physician Level

Be responsible! Every patient you see should be offered the option for immunization.

Take Home Messages in Behalf of Lola Marina, Lola Flora and Lolo Emon

Influenza and pneumococcal pneumonia are responsible for a lot of hospitalization and significant morbidity and mortality among our Filipino elders. They are also preventable through vaccines which are now available here in the Philippines. Regardless of your line of work and study, whether in the public or private sector, whether in the health profession or other fields, whether your membership is in a professional society or a community organization or the Department of Health, surely your relationships include at least one elderly person whose risk for these vaccine-preventable diseases and its complications may be greatly reduced if given the correct vaccine at the correct time. Each of us may take some role in the appraisal, advocacy, information gathering, policy development and implementation. Possible solutions are also presented which may be a take off point in the organization you are a part of. Each of us must take it upon ourselves to light that tiny spark to begin the kindling of interest for an improved healthcare delivery for the elderly Filipino.

References

1. Department of Health FHSIS Annual Report 1999.
2. Philippine Health Statistics 1997.
3. CDC. Prevention and control of influenza recommendations of the Advisory Committee on Immunization Practices (ACIP) *MMWR* 2004; 53 (RR06): 1-40.
4. Gross PA, Hermogenes AW, Sacks HS et al. The efficacy of influenza vaccine in elderly persons: a meta-analysis and review of literature. *Ann Intern Med* 1995; 123: 518-27.
5. Christenson B, Lundbergh B, Hedlund J, Ortavist A. Effects of a large-scale intervention with influenza and 23-valent pneumococcal vaccines in adults aged 65 years and older: a prospective study. *Lancet* 2001; 357: 1008-11.

5

Care Of The Older Person: Implication To Nursing Education And Practice

Araceli O. Balabagno, RN, PhD Nursing
Lydia T. Manahan, RN, MA Nursing

Introduction

The challenge of an aging population is particularly pressing in developing countries. The increased numbers of older persons have influenced the nursing profession to become more involved in the fields of Gerontology and Geriatrics. Increasingly, different types of health problems and issues in care emerge. This paper presentation aims 1) to discuss the dimensions of aging that influence nursing practice and education, as well as 2) to explain nursing approaches that will impact on better outcomes in the care of the older persons.

Dimensions of Aging for Holistic Care

A variety of factors influence the normal aging process. Nutrition, health status, environment, physical activity and stress produce unique effects in each individual. Malnourishment, for example, can hasten the ill effects of the ageing process, as can exposure to disease and stress. On the other hand, mental, physical and social activity may reduce the rate and degree of declining function with age. Nurses must understand the many factors that can influence the aging process and the unique outcomes for each individual. An understanding of common aging changes is essential to ensure competent nursing care that enhances wellness, reduces risk to health, and identifies pathology in a timely manner.

The physiologic changes that come with aging may bring about declining function that can be manifested in immobility, joint pains and loss of flexibility, increasing blood pressure, easy fatigability and shortness of breath, problems of digestion, incontinence, memory loss and depression. These can further aggravate the health status of older persons if they have health problems such as heart disease and stroke, cancers, musculoskeletal problems, sensory (cataract, glaucoma, hearing loss), and others (diabetes, chronic obstructive pulmonary disease, urinary incontinence). These chronic conditions are health problems that require ongoing nursing care over a period of years. Chronic conditions are escalating. These include non-communicable conditions, persistent communicable conditions, long-term mental disorders and ongoing physical and structural impairment (Dela Rosa et al, 2004).

The impact of one individual's aging process may create a ripple effect on the entire family unit. Aging is a family affair. The family unit is the major source of satisfaction for many older persons. The love and companionship of a spouse, the rewards and pride derived from children, renewed relationships with siblings and the joy of grandchildren can be essential ingredients of satisfying old age. The support of the family for the older people however is also threatened due to modernization. It has resulted in the following changes in our society. Mason (1991) described the following consequences: increasing number of women in the workforce, shortage of family caregivers in the younger generation because of diminished size of the family, a system of education which promotes individualism and self actualization, and increased geographical mobility of the young making it more difficult to provide care. This situation widens the gap between the need of older people and the care they are receiving. This in a way contributes further to increasing the health needs of the older people. . Changes in the family system and the reduction in the capacity for gainful work of many older persons threaten their independence social world and self-esteem.

Among the health care providers the nurses stay more often and longer with the older people. It is a great challenge for nurses to provide humane and effective care for older persons. The goal therefore of a gerontology nurse is to increase the quality of care while decreasing health care cost, i.e. cost effective improvement in patient outcome. To be able to do this, the gerontology nurse should have expert clinical skills, creative management, and leadership skills. Several reasons however, may account for the perceived needs to enhance care for the older persons.

1) Need for expert clinical nursing skills

Expert clinical skills for the different levels of dependency in the care of the older persons can be attained through training and practice. To effect better care, there should be a match between dependency need of client and nurses' training. The need for long-term care, life support, and care for the cognitively impaired, are examples of the special needs that may arise. Training can be enhanced by the presence of appropriate environment specific for older persons. Presence of appropriate facilities will enhance learning of nurses as well as care for the older persons.

2) Need for creative nursing management

Every clinician recognizes the value of research as the foundation for practice. The need for evidence-based practice can lead to development of methods of care, which are relevant and culture-based, thus enhancing the quality of care.

Nursing Approaches for Better Outcomes in Care

Nursing is a helping and service oriented profession that finds expression in the provision of total patient care. Sound nursing practice is based on theoretical models (or framework). Frameworks are organized statements of principles to guide actions. The guides help assure a more effective systematic nursing care. There are two models, which are important in the care of the older person. First, the nurse-patient interaction model, explains the dynamics of nursing care. It promotes the carative expression of the nurse geared towards understanding the humanistic needs of the older person. By reason of proximity to the patient, the nurse initiates the interaction at the start of admission and is maintained until discharge, and may continue even in the home. The second, self-care model helps the patient to develop the ability to meet his demands to function independently. Care is provided by the nurse for wellness and health promotion. During situations of illness-imposed demands, such as effects of impairments of breathing and circulation, mobility, need for medication administration, treatment procedures, and others. In this case the nurse provides direct care to respond to the life support needs of the older person.

In the WHO Global Report (2002) on Innovations Care for Chronic Conditions, two concerns related to care for chronic conditions in the micro level were identified: failure to empower patients, and failure to value patient interactions. Evidence-based reports include the following. “There is substantial evidence that programs providing counseling, education, information feedback, and other supports to patients with chronic conditions are associated with improved outcomes. “(Center for the Advancement of Health, 1996). “Including patients in decision making and treatment planning makes the delivery of care for chronic conditions more effective and more efficient)” (Holman H and Lorig K, Patients are partners in managing chronic illness. *BMJ* 2000; 320; 526-527).

A review of the status of Philippine Nursing in relation to care of older person show that there are limitations in the education and training of nurses in the pre-service level, as well as in the post graduate level. The CHED curriculum for the BSN does not specify a separate curriculum for the care of older person. Its integration in the 3rd or 4th year of the curriculum is not clear. As reported, only the UP Manila College of Nursing offers a three-unit course in the care of the older person in the pre-service level. Nursing can best respond to the growing concern in the care of the older person.

The following steps and proposals are made:

1. Curriculum development of core competencies for the care of the older person for integration in the pre-service and postgraduate level nursing.

The pre-service nursing education (Bachelor of Science in Nursing) prepares the graduate for a generalist role (e.g. staff nursing position). A review of the Commission on Higher Education BSN Curriculum shows that there is no separate course included on the care of the older person. The concept of care is integrated in the many subjects on adult health nursing. On the other hand, the UPM College of Nursing offers a 3 units elective course for 3rd year students on care of the chronically-ill and older person.

On the basis therefore of formal education, there is limited focus on care of the older person for the BSN graduate

2. Training Of Caregivers

There is an increase in the number of non-formal, short-term courses on the care of older persons. These courses have increased interest from many nursing sectors. To harness these efforts, there are other major areas that should be developed. There should be facilities where older persons are situated to provide opportunity for practice such as: focusing on knowledge, skills and attitudes of nurses in the care of older persons. This will entail the study in the environments (e.g. home care or institution based care) of older persons for the area of practice. Training of graduate level nurses in the care of the older person. Research on the use of nursing models for health promotion for older persons with chronic illness.

3. Improvement In Practice

Are the nurses' capabilities matched with the increasing demands for gerontologic nursing care? How can nurses respond to the expanding needs? Expertise in clinical skills as well as the broader concern of responding to the needs of the increasing older population to maximize their capabilities throughout the aging process required a more structured, organized program for nurses.

Efforts can be directed towards a balance between graduate education, nursing practice and interventions research. Putting together data on the best practices in the care for older person in the Philippine setting will help define standards for safe and efficient care for older person. Organizing nurses toward promoting care for the older persons will enhance the contribution of the nursing profession for quality care, decreasing health care cost and an abler productive older person.

References

- Ageing and Health: A health promotion approach for developing countries. World Health Organization, Regional Office for the Western Pacific 2003.
- Dela Rosa J. De Leon AR, Lorenzo M, Maligat R (2004). Nurturing and optimizing older persons in the Philippines: Revisiting the implementation of policies on the elderly. Briefing Paper by the College of Public Health, Department of Health Policy and Administration

- Domingo LJ; Medina BT, Domingo Ma FA (1990). *An Assessment of the Status of the Philippine Elderly*. College of Social Sciences & Philosophy, University of the Philippines, Quezon City
- Innovative Care for Chronic Conditions: Building blocks for action*. Global report. World Health Organization 2002.
- Mason KO (1991). Family charge and support of the elderly in Asia. UN-ESCAP Population Aging in Asia. Population Study Series No. 108, 96-107.
- Natividad, J.N., Kuan, L.G., Balabagno, A.O., Bonito, S. R., Añonuevo, C. A., and Manahan, L.T. (2005). *Caring for the older person*. Los Baños, Laguna: University of the Philippines-Open University.

6

Community Resources for Older People: Are we doing enough?

Doris Mariebel D. Camagay, MD

1999 was declared by the United Nations as the International Year of Older Persons with its theme *Towards a Society for all Ages*. Since then the buzzword has been mainstreaming the elderly into our society. Time was, our grandparents knew their place (in their rockers), and the scepter passed on to our parents, aunt or uncle. Transforming into a society for all ages meant enabling the elderly to lead independent lives in the community for as long as possible, allowing them access to the same services and opportunities, contribute in the same areas and enjoy and participate in the activities and challenges which are available to people of other ages.

A special report by Newsweek International in December, 2004, categorically stated that the elderly will set the agenda for the 21st century, because of this phenomenon of world population aging. But the aging cohort that we will see are not like the grandparents we knew. Thanks to advances in science, health and technology, these elderly will have more functionally active years, will be more visible, and will be living longer. Calculations by the United Nations showed that in 1970, the 60 yr old female will live 17 years more, with her male counterpart following behind by one year. However, in 1990 the 60 yr olds were already expected to live twenty years more. During the next two generations, the number of the world's people older than 60 will quadruple, rising from 606 million now to 2 billion in 2050.

What would be the consequences of having a population living up to 90 to 120 years? Although they have longer lives, they cannot expect to have the same social relationships they had as when they were younger. The UP Population Institute stated that in 1970, a frail older person can be supported by 11 independent and productive taxpayers. In 1995 the ratio has gone down to 1:10, but fifteen years from now it will be 1: 6. This critical proportion of dependent elderly can exact a toll on established systems of social support. Western countries with pension systems and health insurance need to monitor their national treasuries against depletion, unless conservation measures are taken. In countries such as ours where poverty is a national issue, other means may be worth looking into and capitalized on to address the problems.

The crisis on elderly care rests on declining social supports for the golden generation. Traditionally, the Filipino family has built-in systems of old age support which are: 1) having a large family to begin with that respects its elders, 2) a bilaterally extended family that is closely knit, and 3) the acceptance of the daughter, daughter-in-law, (or female spouse), in the primary caregiver role. With the extension of the lifespan, it will be customary to have 3- or 4-generation families within a single roof. Patterns of intergenerational support within the household, as described by the University of the Philippines Population Institute in 1999, is a web of obligation and commitment, exchange of tangible and intangible assistance to meet either the dependent elderly or child dependent's needs. Yet we know that many factors are now affecting these Filipino family ties. Unemployment and poorly paying jobs force the productive citizens to choose the overseas option. Family planning, hand in hand with declining economy are the twin combination that make the youth rethink the option of marriage, or reduce their desired family sizes. Hence, even the built-in and expected systems of old-age support, characterized as largely human resource-based, are eroding. Clearly, the Filipino elderly should extend the network beyond the family. Clearly, the family must learn to adjust to, and utilize community resources to continue caring for dependent elders.

It is to the credit of the Philippine government that even though a young nation, legislations have been passed to provide benefits to the older persons. The Philippine constitution in principle has a comprehensive approach to development that provides and prioritizes the underprivileged, sick, elderly, disabled, women and children. It

puts the family as the main caregiver of the older members “while the state may design programs of social security for them.” Another benefit available is a medical insurance for the poor and unemployed, the cost of which is to be borne by the national and local governments on a cost-sharing basis, through the National Health Insurance Act of 1993. Pensions are also available through the Government Service Insurance System, and Social Security System, to retirees. No wonder then that the Filipino elderly never prefers to stay anywhere except in our country. Just recently, the Expanded Senior Citizens Act of 2003, also called Republic Act No. 9257 superseded Republic Act No. 7432. RA 9257 not only aims to establish mechanisms whereby contributions of senior citizens are maximized, but also adopts measures whereby senior citizens are appreciated and assisted by the community. However, its aim of establishing community-based health and rehabilitation programs in every political unit of society seems to be too ambitious, because an older RA 7876 that establishes a day care center in every *barangay* materialized in only a hundred centers from the Bases Conversion Act.

Community resources for older people, to be able to meet their multidimensional needs, have to be as multifaceted. Social status and economics, culture, transportation, education and the market have to be considered when talking about mainstreaming the older persons. It is like transforming established frameworks with a conscious preference for a better life for the older Filipinos. No longer will *Lola* be just an extension of the household. She will have her separate suite with *Lolo*, and together they will attend classes in silver universities, pursue a third career, and play in their exclusive leisure parks. Such a scenario in 2050 does not seem farfetched, for even the National Institute on Aging-Philippines is envisioning the aging years as a time of unlimited possibilities. Is the present community preparing for the onslaught of these highly functioning, highly motivated, highly mobile elderly?

One way of answering the above question is to classify first the elderly as the young old and the old-old. The young old—those in the sixties to their early seventies—could still be considered productive and actively contributing members. For them, programs and facilities that will maintain or improve their health, independence and productivity are recommended. A collaborative study done in 2000 by the Department of Health, and the University of the Philippines College of Public Health (DOH-CPH) on the health status and needs of the elderly showed a majority feeling healthy with good functional capacity, however a significant proportion indicated having specific health problems such as difficulty walking

and chewing, with a smaller number suffering from respiratory, neurologic, cardiovascular, musculoskeletal problems and incontinence. At a time when chronic illnesses are common, it is surprising that the study also showed a low frequency of consultation with medical personnel, with a higher proportion of males consulting traditional health workers. The most frequent reason cited for nontreatment was affordability; however, looking deeper into this issue, the other reason for nonconsults could be the actual dearth of centers providing health/medical services to the elderly. If there are, they are concentrated in tertiary hospitals in urban areas namely the St Luke's Medical Center, Philippine General Hospital, and Medical City. There are other hospitals with practicing geriatricians in the National Children's Hospital, Davao, Zamboanga, and Cebu.

The lack of medical centers specializing on geriatrics and gerontology has not deterred the Filipino elderly from contributing to community building activities. There are numerous grassroots association of senior citizens with a social agenda of maximizing their potentials as contributors to human and community development, in a voluntary capacity. Whether government or non-government organization initiated, in wealthy and poor *barangays* all over the country, the presence of elders in church activity, medical missions, day care centers, income-generating projects etc. acting as leaders, teachers, health workers, social mobilizers and advocates of their concerns can now be felt. From a recent focused group discussion with elderly health workers of 3 *barangays* in Pasay City, participating in volunteer work is a welcome occupation during their twilight years. Reasons given are personal fulfillment, as their apostolate work, and having something worthwhile to do. A health worker also stated that she is also able to teach the health practices she is learning to her family. Worthwhile occupation seems to be able to conquer the declining health and onset of chronic illnesses of the aging years. Moreover, their visibility (and not in their rockers), providing care (not recipients) to individuals not their family and actively guiding (not passively waiting) the government in determining their needs, will truly make one believe that yes, the older persons themselves are community resources. In this context, ageism, which is the kind of discrimination given to the old simply because of their age, is nonexistent.

However, with the onset of frailty, or having a disability with risks of further injury with the slightest trauma or disturbance in homeostasis, the kind of community resources needed are different altogether. That the older they get, the more feminized they are, and the greater their need for health and social services has been documented by western countries. In the DOH-CPH Study of 2000, clients of respondent Homes

for the Aged were surveyed and the most common problems are blindness, hearing impairment, mobility problems, and mental disorders and being bedridden. But the most distressing are the situations of families who are taking care of mentally and physically challenged older persons. Morbidities like cardiovascular problems, depression and anxiety among caregivers of demented elderly have been documented in numerous journals. Assistance other than education, support and counseling needs to be given to these families. Resources that will allow access to formal caregivers, skilled nurses and allied medical professionals, support groups, legal and paralegal services are important. Despite the Filipino value mentioned in the early part of this article, when psychosocial wellbeing is at stake, culture, values and ties may have to give in. For families at risk, institutionalization could be a welcome option, even in the Philippines. As of this writing, there are 14 homes for the aged all over the country. Such a number may not be enough for the rapidly growing elderly population.

For the frail and dependent elderly, it is recommended that homecare and hospice care be developed further as important community resources. Homecare, exemplified by the Family Health Care Program of the Department of Family and Community Medicine of the Philippine General Hospital, provides medical and psychosocial support to patients requiring continued medical attention and support once discharged from the hospital from an acute illness. The study done by the PGH Department of Internal Medicine from among patients discharged from the Medical Wards from March to May 2003 showed that the top five indications for home care were: presence of pressure ulcers, debilitation from cardiovascular disease, presence of indwelling catheter, cardiac complications of chronic lung disease (cor pulmonale), and presence of a nasogastric feeding tube. For a homecare program to succeed, a good family support is needed, and in our country, this is not a problem.

Home healthcare services presently are either run privately by an individual, as part of an outreach program of teaching hospitals, or through non-government agencies. Although their numbers cannot be determined at the moment, they are limited in number, limited in reach, and uncoordinated. There needs to be a system of information and technical exchange, referral network and coordination among these organizations. Compensation by the national health insurance should also be looked into for uniform and systematic billing. For this purpose, taxonomy of home-based services is proposed for a common understanding of the quality of services needed. Developed by the Coalition of Services of the Elderly, it is an adaptation of the taxonomy of undergraduate community education being used by the University of the Philippines Manila. The classification is based according to time

Table 1. Taxonomy of Home-based Services for the Frail Elderly

Levels	I	II	III	IV	V
Time Demand	Time and resource utilization are foreseen	Time and resource utilization is foreseen,	High, but spaced	High	Very high
Human Resource Demand			Skilled health worker	Skilled health worker	Very skilled
Level of Family Participation	Depends but can be planned	Needs family participation	Family's consent means acceptance of a service they cannot provide	Give and take to sustain relationship; Acceptance of service by family should be explicit	Very high contribution of family; Has potential to deplete resources
Potential for Exhaustion of family members and resources					
Need for referral to higher community resources	None	May or may not need hospitalization	Needed only for special situations	Great potential for needing other resources	Has potential to use higher community resources

Source: *Proceedings of the ROK-ASEAN Regional Workshop on Home Care for Older People, In Collaboration with Helpage International. October 2004, Hanoi Vietnam.*

demand on the healthcare provider, human resource utilization, level of family participation, potential for exhaustion of family members and resources, and need for referral to higher community resources. Examples of services that can be given are also listed down. It would be interesting to come up with researches on community-based and home-based services using this classification.

Examples of the different levels of home-based services:

- Level I:* Single-purpose, single visit. E.g., befriending services of volunteer students from an external organization
- Level II:* Extended Purpose for a Definite Period/Regular Staggered Visits (E.g. Visit of the health team of an elderly who is recovering from an acute illness)
- Level III.* Extended Purpose for an Indefinite Period/Regular, Staggered Visits (E.g. Taking care of a frail elderly with chronic illnesses needing monitoring for example, of blood sugar, blood pressure)
- Level IV.* Extended Purpose for an indefinite period/Regular Daily Care (E.g. Taking care of a disabled elder who is dependent on ADL and family needs community's support)
- Level V.* Extended Purpose for Indefinite Period, Continuous, 24-hour care (e.g. Taking care of an older person with Alzheimer's Disease in moderate stage)

Conclusions and Recommendations:

1. The crisis on eldercare rests on declining social supports for the burgeoning elderly population. Looking into available resources, for example, manpower against financial resources, to capitalize on to address this issue is an appropriate first step.
2. Government has a bias towards the poor and underprivileged., and recognizes the family as the basic unit of support. Economical and innovative elderly focused health and social services should be more available, in all levels of care. In areas where specialists are not available, some form of training for government and primary care physicians on geriatrics and gerontology are recommended.
3. Emphasize on disease prevention, health promotion and wellness of the mind, body and spirit.
4. Promote geriatrics as a field of specialization for doctors, and gerontology for nurses, allied medical professionals and other healthcare providers.

5. Continuing education of healthcare professionals on the special problems of the elderly and their management have to be given from time to time for updates and continuing education.
6. Active participation by the older persons in grassroots organizations have to be encouraged to prolong their active years.
7. Among government and non-government agencies, strengthening of networking to promote coordination of care, information and technology exchange, and referrals have to be looked into.
8. Promote home health care, hospice and palliative care as a community resource.
9. Recognize the plight of the caregiver and extend to them the same care that is given to a patient.

References

- Baltazar JC and Valencia EP. Profile of Filipino Older Persons: An Assessment of their Health Status, Needs, Access to and Availability of Care, Facilities and Services. Department of Health and University of the Philippines College of Public Health Foundation. April 2000, Manila.
- Brownell G and Power C, The Golden Age. *Newsweek International* (Magazine). Vol. CXLIV, No. 3, Dec 6, 2004.
- Calibuso JS, DeDios JAA, Ramirez JMK, DelaVega, SAF. Profile of Patients Discharged from the Philippine General Hospital Charity Medical Wards Requiring Home Care. *Phil Journal Internal Med*, July 2005.
- Camagay, DMD. Older Persons as Community Resources: Choosing to Care. *Philippine Social Sciences Review*, Vol. 56 Nos. 1-4, Jan-Dec, 1999.
- Cruz, GT. Economic Well-Being of the Filipino Elderly. *Philippine Social Sciences Review*, Vol. 56 Nos. 1-4, Jan-Dec, 1999.
- Hooyman N and Kiyak HA. The Importance of Social Supports: Family, Friends and Neighbors. *Social Gerontology, A Multidisciplinary Perspective* (Chestnut Hill Enterprises, Inc. Editorial-Production Services) Allyn & Bacon, 1996.
- Proceedings of the ROK-ASEAN Regional Workshop on Home Care for Older People, In Collaboration with Helpage International. October 2004, Hanoi Vietnam.
- Republic Act No. 9257. An Act Granting Additional Benefits and Privileges to Senior Citizens Amending for the Purpose Republic Act No. 7432, otherwise known as "an act to maximize the contribution of senior citizens to nation building, grant benefits and special privileges and for other purposes. Congress of the Republic of the Philippines. 12th Congress, 3rd Regular Session, July 28, 2003.
- UNESCAP. Population Ageing: Review of Emerging Issues. Proceedings of the Meeting on Emerging Issues on the Aging of the Population, Bangkok. 1986.

7

Caring for Older Filipinos: Geriatric Medicine at the Crossroads

Emmanuel T. Gatchalian, MD

The United Nations lowered the arbitrary geriatric age at 60 years for statistical and epidemiological purposes. Our present population is about 80 million. By the year 2025 the projected increase of the Filipino population is over 100 million, 10% of whom are those 60 years and above, which means over 10 million older people will be living at that time. - *World Health Organization.*

Geriatric Medicine: A Clinical Imperative

A two-year fellowship-training program in geriatric medicine was initiated in St. Luke's Medical Center fifteen years ago. It has then produced only 25 physicians with geriatric expertise plus a handful that trained abroad. No other institution is conducting Geriatric Fellowship Training Program. Therefore, there is a short fall of geriatricians that exists in critical proportions.

- We must recruit physicians and other health care professionals into careers in geriatric medicine
- We must increase the number of health care professionals who employ geriatric principles in caring for older persons
- We must increase access to high quality patient-centered care and not just practice "geriatric-like" care.

Goals of Geriatric Care:

Identify, stabilize or delay progression of chronic medical conditions whenever feasible and prevent acute and iatrogenic illness. Identify and treat them rapidly when they occur. Physicians caring for the frail elderly should recognize the importance of focusing on functional conditions, autonomy, comfort, quality of life, safety and happiness as goals of healthcare in older persons.

Preventive Gerontology

Preventive Gerontology should start at age 45 or earlier. By history, physical and laboratory examinations, we identify the health risk factors of each individual such as:

- Hypertension – control
- Diabetes – control
- Elevated cholesterol – reduce
- Sedentary lifestyle – increase physical activity
- Cigarettes smoking – cessation
- Alcohol – in moderation

Health risk factors are person specific. We must educate and increase their knowledge on how these risk factors leads to disease and disability. Improve their skills in health promotion and disease prevention (self-care) through lay educational fora, media and educational materials.

Immunization prophylaxis should be given against influenza, pneumonia, and tetanus. As **chemoprophylaxis** aspirin can be given to prevent coronary attacks and strokes. Coumadin is also given to prevent thrombo-embolic events among patients with chronic atrial fibrillation.

Cancer prevention and early detection techniques should be employed. The use of DEXA screening to detect osteoporosis which is a significant risk factor for the higher prevalence of fractures among elderly is highly recommended.

Environmental Gerontology

Person-Environment Fit. At home, for those with impaired function and disability, provision of banisters in the stairs, well- lit rooms, grab bars and raised toilet seats, uncluttered non-slippery floors, loose rugs, etc. In the community there should be special parking spaces, ramps for the wheelchair-borne, lever door knobs, automatic sliding doors in buildings and close proximity to the shops.

Pre-retirement courses in order to buffer impacts on economic, physical and psychological well-being.

Prevention of iatrogenesis – 30% of hospital admissions are due to iatrogenic illness mainly caused by adverse drug reactions due to aging changes in drug distribution, metabolism, elimination and pharmacokinetics. Strategies to avoid polypharmacy and adverse drug effects are part of good quality care.

Acute and sub acute illness in older patients with non-specific symptoms or atypically with Geriatric Syndromes like:

- Functional decline in ADL's and IADL's
- Failure to thrive (Hypodipsia and hypovolemia)
- Dizziness
- Confusion
- Worsening of previous mild dementia
- Depression
- Falls
- Urinary Incontinence
- Sleep Disorder
- Weight loss

In view of the above, a comprehensive geriatric assessment that includes medical, physical, psychological, cognitive, socio-economic domains of health as well as the religious needs of the older patient becomes mandatory.

It is best done by a team approach utilizing an interdisciplinary approach. The team consists of a geriatrician (moderator) social worker, clinical nurse, nutritionist, psycho geriatrician, pharmacist, rehabilitation experts, and others as need be.

An overall plan of treatment and long-term follow-up is then implemented, re-evaluated and modifications done periodically when called for.

Chronic Models of Care:

Roughly 65% of adults 65 years old and above have two or more chronic conditions. 43% have 3 or more and 24% has four or more as their ages advances. These co-morbid chronic diseases compound presentation of illness, interacts with one another to produce more functional decline, poor quality of life, increased morbidity and mortality.

When we were medical students we were trained to take care of one condition and a time not only four or six. Geriatricians need to be

also chronic care specialists. We should be concerned about comorbidities because it relates to etiology, prevention and treatment. Models that take into account pre-clinical illness and therefore preventive gerontology cannot be over-emphasized.

Day Care and Respite Centers:

These are models of care that incorporates psychosocial modules of care on a daily basis for the benefit of both patient and caregivers.

End of life Care (Hospice Care)

Older patient with terminal illness (6months) like cancer, infection, heart failure, liver failure, COPD, etc. requires multidisciplinary approach as well. The physicians, the patient, family and other specialists, should address several domains. Pain should be at all times controlled. Other symptoms like nausea, vomiting, constipation, dyspnea, and respiratory stridor should be managed. Depression should be treated. Ethical concerns and clinical decision making be discussed. Provision of care, affection, empathy, comfort and quality of life, easing the pain and fear of dying should be instituted. Also taking into consideration, the religious needs of the dying patient.

This is best done in collaboration with the Geriatrician as he or she is most qualified to discuss end of life care.

8

Improving the Quality of Life of Older Filipinos: Focus on Recommendations for the Prevention and Treatment of Osteoporosis

Sandra A. Tankeh-Torres, M.D., M.Sc.

Introduction

The World Health Organization (WHO) Consensus Development Conference in 2001 defined osteoporosis as a “disease characterized by low bone mass and microarchitectural deterioration of bone tissue leading to enhanced bone fragility and a consequent increase in fracture incidence.”

Osteoporosis is an established risk factor for vertebral, hip and wrist fracture, with a relative risk of ~2.0. In women, the incidence of vertebral fractures begins to increase near the time of menopause; in men, vertebral fracture incidence increases at older ages but at ratios 2:1 that of women. Hip fracture incidence accelerates approximately 10 years after menopause in women and after age 70 in men. Kenny and Prestwood states that “the disability, mortality, and cost of hip and vertebral fractures are substantial in the rapidly growing, aging population so that prevention of osteoporosis is a major public health concern.”

Epidemiologic studies have shown the higher incidence of osteoporosis in both Caucasian and Asian races compared to African (black) or Latin populations. Among Asians, there is data on the

incidence of osteoporosis in China, Hong Kong, Taiwan, Thailand, Korea, and Vietnam. However, there are no local statistics available on the incidence of osteoporosis or fractures.

Recommendations for the Diagnosis of Osteoporosis and Prediction of Fracture

1. Use of OSTA / Assessment of Risk Factors as a Screening Tool among Postmenopausal Women

Osteoporosis is both preventable and treatable but may not become clinically evident until a fracture occurs. Risk factors for osteoporosis and osteoporotic fractures have been determined and used to identify the need for further evaluation or preventive or therapeutic regimens. (Appendix A)

In 2000, the Osteoporosis Society of the Philippines (OSPI) formulated an osteoporosis risk factor test for a Filipino postmenopausal population based on a standard list of risk factors collated by the International Osteoporosis Foundation (IOF). This is a 15-item, self-administered, easy to comprehend and quick to accomplish screening questionnaire written in English and translated into Tagalog. However, the sensitivity of this test has not been established.

In 2001, the IOF under the auspices of the WHO Collaborating Center for Public Health Aspects of Rheumatism initiated the study that developed the Osteoporosis Screening Tool for Asians (OSTA). There were 860 Asian postmenopausal women participants, 9% of this population was Filipino. Low body weight (< 127 lbs or a BMI of < 21) and age >65 years were reported as significant risk factors for Asian postmenopausal women. Two risk factors, age and weight (body mass index [BMI] may be used in lieu of body weight) were used for screening for those with fracture risk. The sensitivity of this tool was 91% and the specificity was 45%. OSTA was validated using the central DXA determination as the gold standard in a Japanese cohort of 1123 postmenopausal women who were enrolled in the Adult Health Study. This screening tool was also further validated in a Taiwanese, Korean, Thai, and in a Filipino population. Wehren and Siris highly recommended the use of OSTA: "OSTA is the simplest of the risk factor screening instruments, performs as

well as the more complex tools, and because of its simplicity, may be the most useful means for the busy clinician to identify postmenopausal women who would benefit most from bone mineral density (BMD) testing.”

2. Use of Bone Mineral Density Measurement with Central DXA for diagnosing osteoporosis and determining fracture risk

Determining the BMD is the best predictor of fracture risk and using a central Dual Energy Xray Absorptiometry (cDXA) machine remains to be the gold standard for measuring BMD. The relative risk of fracture is 10 times greater in women in the lowest quartile of BMD, compared with women whose BMD is in the highest quartile. The National Osteoporosis Foundation recently published recommendations for BMD testing for all postmenopausal women over age 65, based on a cost-benefit analysis. In addition, they recommend screening postmenopausal women under age 65 years with one or more risk factors, postmenopausal women that present with a fragility (vertebral) fracture, women who are considering therapy, if BMD will facilitate the decision, and women who have been on hormone replacement therapy for prolonged periods.

BMD also may be used to establish the diagnosis and severity of osteoporosis in men, and should be considered in men with low-trauma fracture, radiographic criteria consistent with low-bone mass, or diseases known to place an individual at risk for osteoporosis.

Access to cDXA in the country is limited. As of 2005, there are only 17 institutions that have a cDXA machine, 13 in MetroManila, 2 in Cebu City and 2 in Davao City.

Recommendations for the Prevention and Treatment of Osteoporosis

There is a need for educating the postmenopausal and elderly population on the value of preventing osteoporosis. This involves a regular exercise program, sufficient intake of calcium and vitamin D, and lifestyle modification if risk factors of osteoporosis are present.

1. *Regular Exercise Program:* It is important to encourage older adults to be as active as possible. Weight-bearing exercise, such as walking, improves muscle strength, agility, balance, and sense of well-being, with a consequent decrease in falls. It is recommended to start slowly, and gradually increase both the number of days and the duration of walking each day. An alternative to this is physical therapy, especially for those who already developed vertebral fractures. The therapy can provide postural exercises, alternative modalities for pain reduction and information on changes in body mechanics to prevent future fractures.
2. *Adequate Intake of Calcium and Vitamin D:* The recommended amount of elemental calcium for postmenopausal and the elderly ranges from 1,200 to 1,500 mg a day, while that of Vitamin D is 400 to 800 IU a day.
3. *Modification of lifestyle factors that increase the risk of fractures:* Some risk factors that may be modified include cigarette smoking, alcohol and caffeine intake, and a sedentary lifestyle.

The National Osteoporosis Foundation (NOF) recommendations for the treatment of osteoporosis are both relevant and applicable for local use:

1. All women are counseled on risk factor reduction, nutrition and exercise.
2. Initiate treatment even without BMD testing in women over age 65 years, with one or more risk factors, including weighing less than 127 lbs.
3. Initiate treatment for BMD score < -1.5 if other risk factors are present.
4. Initiate treatment for BMD score < -2.0 even in the absence of other risk factors.
5. Initiate treatment to all postmenopausal women presenting with fractures.

Treatment options for those with established osteoporosis or who are at higher risk for fractures include the use of pharmacologic agents, such as estrogen replacement, bisphosphonates, selective estrogen receptor modulators (SERMs), calcitonin, strontium and parathyroid hormone, which are all locally available

References

- Black DM. Why elderly women should be screened and treated to prevent osteoporosis. *Am J Med* 1995;98 (suppl 2A):67-75.
- Black DM, Palermo L, Abbott T, Johnell O. SOFSURF: a simple useful risk factor system can identify the large majority of women with osteoporosis. *Bone* 1998; 23: S605.
- Black DM, Cummings SR, Karpf DB, et al. for the Fracture Intervention Trial Research Group. Randomized trial of effect of alendronate on risk of fracture in women with existing vertebral fractures. *Lancet* 1996;348: 1535-1541.
- Cadarette SM, Jaglal SB, Kreiger N, et al. Development and validation of the Osteoporosis Risk Assessment Instrument to facilitate selection of women for bone densitometry. *CMAJ* 2000;162(9):1289-1294.
- Cadarette SM, Jaglal SB, Murray TM. Validation of the simple calculated osteoporosis risk estimation (SCORE) for patient selection for bone densitometry. *Osteoporosis Int* 1999; 10: 85-90.
- Chestnut CH, Silverman S, Andriano K, et al. Prospective, randomized trial of nasal spray calcitonin in postmenopausal women with established osteoporosis: the PROOF study. *Am J Med* 2000;109:267-276.
- Cranney A, et al. Evidence-based Rheumatology. London; BMJ Publishing Group, 2004, 183-209
- Cummings SR, Black DM, Thompson DE, et al. Effect of alendronate on risk of fracture in women with low bone density but without vertebral fractures: results from the Fracture Intervention Trial. *JAMA* 1998;280: 2077-2082.
- Dawson-Hughes B, Dallal GE, Krall EA, et al. A controlled trial of the effect of calcium supplementation on bone density in postmenopausal women. *N Engl J Med* 1990;323:878-883.
- Elliot JR, Gilchrist NL, Wells JE, et al. Historical assessment of risk factors in screening for osteopenia in a normal Caucasian population. *Aust NZ J Med* 1993;23:458-462.
- Ettinger DM, Black DM, Mitlak BH, et al. Multiple Outcomes of Raloxifene Evaluation (MORE) Investigators. Reduction of vertebral fracture risk in postmenopausal women with osteoporosis treated with raloxifene. *JAMA* 1999;282:637-645.
- Harris ST, Watts NB, Genant HK, et al, for the Vertebral Efficacy with Risedronate Therapy (VERT) Study Group. Effects of risedronate treatment on vertebral and nonvertebral fractures in women with postmenopausal osteoporosis. *JAMA* 1999;282:1344-1352.
- Hodgson SF, Johnston CC Jr. Osteoporosis Task Force of the Association of Clinical Endocrinologists and the American College of Endocrinology. AACE Clinical practice guidelines for the prevention and treatment of postmenopausal osteoporosis 1996.

- Honkanen RJ, Alhava E, Saarikoski S, et al. Interaction of calcium and HRT in the prevention of bone loss and fractures in early postmenopausal women. *J Bone Miner Res* 1999;14:S181.
- Ho SC. Body measurements, bone mass, and fractures. Does the East differ from the West? *Clin Orthop* 1996 Feb;(323):75-80.
- Kenny AM and Prestwood KM, Osteoporosis, Pathogenesis, Diagnosis and Treatment in Older Adults, *Rheumatic Disease Clinics of North America* 2000 Aug; 26: 569-591.
- Koh LKH, Ben Sedrine W, Torralba T, et al. A simple tool to identify Asian women at increased risk of osteoporosis. *Osteoporosis Int* 2001;12:699-705.
- Lau EM, Cooper C. The epidemiology of osteoporosis. The oriental perspective in a world context. *Clin Orthop* 1996 Feb;(323):65-74.
- Lau EM, Suriwongpaisal P, Lee JK et al. Risk factors for hip fracture in Asian men and women: The Asian Osteoporosis Study. *Journal of Bone and Mineral Research* 2001 Nov;16:572-580.
- Lydick E, Cook K, Turpin J, et al. Development and validation of a simple questionnaire to facilitate identification of women likely to have low bone mass. *Am J Man Care* 1998; 4:37-38.
- Masud T, Jawed S, Doyle DV, Spector TD. A population study of the screening potential of assessment of trabecular pattern of the femoral neck (Singh index): the Chingford Study. *Br J Radiology* 1995;68(808):389-393.
- Melton LJ, Eddy DM, Johnston CC Jr. Screening for osteoporosis, *Ann Intern Med* 1990;112:516-528.
- Miller PD, Watts NB, Licata AA, et al. Cyclical etidronate in the treatment of postmenopausal osteoporosis. *Am J Med.* 1997; 103: 468-476.
- NIH Consensus Development Panel. Osteoporosis prevention, diagnosis and therapy. *JAMA* 2001;285(6):785-795.
- Osteoporosis Society of the Philippines. Guidelines for diagnosis and management of osteoporosis. *Compendium of Philippine Medicine: Treatment Guidelines from Philippine Medical Societies, Third Edition, Medicomm Pacific Inc., pp 169-177.*
- Overgaard K, Hansen MA, Jensen SB, Christiansen C. Effect of salcatonin given intranasally on bone mass and fracture rates in established osteoporosis. *BMJ* 1992;305:556-561.
- Overgaard K, Riis BJ, Christiansen C, Hansen MA. Effect of salcatonin given intranasally on early postmenopausal bone loss. *BMJ* 1989;299:447-479.
- Overgaard K, Riis BJ, Christiansen C. Nasal calcitonin for treatment of established osteoporosis. *Clin Endocrinol (Oxf)* 1989;30:435-442.
- Ribot C, Pouilles JM, Bonneau M, Tremollieres F. Assessment of the risk of post-menopausal osteoporosis using clinical factors. *Clin Endocrinol* 1992; 36:225-8.
- Slemenda CW, Hui SL, Longcope C, Wellman H, Johnston CC Jr. Predictors of bone mass in perimenopausal women. *Ann Intern Med* 1990; 112: 96-100.

- Tilyard MW, Spears GFS, Thomson J, Dovey S. Treatment of postmenopausal osteoporosis with calcitrol or calcium. *N Engl J Med* 1992;326:357-362.
- Ungar WJ, Josse R, Lee S, et al. The Canadian Score questionnaire. *J Clin Densitom* 2000; 3: 269-80.
- Versluis RGJA, Vismans FJFE, van de Ven CM, Springer MP, Petri H. Radiographic absorptiometry of the phalanges as a screening instrument to detect osteoporosis of the hip. *Acta Radiologica* 1999 July;40(4):418-421.
- Wallace RB, Tonner D, Atkins D. U.S. Preventive Services Task Force. Guide to Clinical Prevention Services, 2nd edition. Washington DC: US Department of Health and Human Services, Office of Disease Prevention and Health Promotion, 1996.
- Walker-Bone K, Reid DM, Cooper C. Is screening for osteoporosis worthwhile? *Brit Med Bull* 1998;54(4): 915-927.
- Wehren and Siris, Beyond bone mineral density: can existing clinical risk assessment instruments identify women at increased risks of osteoporosis? *J Intern Med*, 2004 Nov; 256 (5): 375-80.

Appendix A

Risk Factors for Osteoporosis and Osteoporotic Fractures

I. Nonmodifiable Risk Factors:

1. Personal history of fracture as an adult
2. History of fracture in first-degree relative
3. Caucasian race
4. Advanced age
5. Female sex
6. Dementia
7. Poor health/frailty

II. Modifiable Risk Factors:

1. Current cigarette smoking
2. Low body weight (<127 lbs or 57kg)
3. Estrogen deficiency secondary to early menopause (menopause occurring before 45 years of age) or bilateral oophorectomy
4. Prolonged premenopausal amenorrhea, defined as amenorrhea of more than 1 yr
5. Low calcium intake (lifelong)
6. Alcoholism
7. Caffeine intake
8. Drug intake: steroids, thyroid hormones
9. Impaired eyesight despite adequate correction
10. Recurrent falls
11. Inadequate physical activity

9

Prevention and Treatment of Diabetes in Older Individuals

Cecilia A. Jimeno, M.D.

Diabetes is now considered a pandemic. In 2003, 194 million people worldwide, ranging in age from 20 to 79 years, had diabetes. By 2025, this number is expected to increase by 72% to 333 million, and nearly 80% of these cases will be in the poorer industrializing countries (1). The increase in diabetes results from continuing changes in lifestyle associated with urbanization, mechanization and industrialization which lead to unhealthy diet, physical inactivity and obesity (5).

The numbers in the Philippines are not yet that alarming but are none the less increasing. The national prevalence of diabetes in 1998 was 3.9%. The National Nutrition and Health Survey (NNHeS) in 2003 estimated the prevalence of diabetes at 4.6% (2). However, the risk for cardiovascular morbidity and mortality does not start at the point of diagnosis of diabetes. It starts during the so-called pre-diabetic stage of impaired fasting glucose (IFG) and impaired glucose tolerance (IGT). Impaired fasting glucose is defined as a fasting blood sugar of 100 to 125 mg/dL while impaired glucose tolerance is defined by a random blood sugar (RBS) or a 2-hr RBS (after a 75-gram oral glucose load in the 75 gram oral glucose tolerance test) greater than 140 mg/dL to 199 mg/dL. The NNHeS gives a national estimate of 3.2% for impaired fasting glucose (2). Totalling the figures for DM and IFG gives an estimate of around 5 diabetics and 3 pre-diabetics for every 100 persons in the Philippines.

Subgroup analysis of the results of the NNHeS indicates that for both males and females, the prevalence of DM is highest among individuals aged 50-59 at approximately 9% based on FBS, and an estimated 10% based on the diabetes questionnaire of a previous history of physician/nurse-diagnosed diabetes mellitus. Among the 60-69 year old age group, the prevalence of DM is 5.0% for males and 7.3% for females based on FBS, and 6.5% for males and 10.8% for females based on a diabetes questionnaire. The numbers are similar for the ≥ 70 years age group (2). As expected, diabetes in the Philippines is more prevalent among individuals in the older age groups. Restating these figures in another way, it appears that almost one out of every 10 individuals aged 50 years and older have diabetes mellitus, which is double the prevalence of 1 diabetic in 20 among the younger age groups.

In 1994, diabetes was ranked as the 10th leading cause of death among Filipinos. Five years later in 1999, diabetes was already 9th among the ten leading causes of mortality in the Philippines, with a rate of 14.1 deaths due to diabetes per 100,000 population (3). However, diabetes is an important public health concern not only because it leads to an increased cardiovascular mortality, but because it has many disabling complications. Diabetic eye disease includes cataracts, glaucoma and diabetic retinopathy, all of which can cause blindness (4). The 2004 Philippine Renal Disease Registry reports that diabetes is now the leading cause of end stage renal disease, accounting for 33% of all patients on dialysis. Diabetes is also the most common cause of non-accidental limb amputations. According to the Western Pacific Declaration of Diabetes, in many developing countries (the Philippines included), diabetic ketoacidosis, foot infections, and other infections such as pneumonia and tuberculosis, remain the most important problems leading to hospitalization (5).

There is therefore a clear rationale for preventing the complications of diabetes mellitus, and these entail a combination of lifestyle modification and drug therapy designed not only to ensure good glycemic (blood sugar) control, but also to achieve optimal weight, normal blood pressure and normal cholesterol levels. The targets for good control of diabetes and its co-morbid conditions include the following: glycosylated hemoglobin (HbA1c) of $< 7\%$ (American Diabetes Association) or $< 6.5\%$ (European Association for the Study of Diabetes); blood pressure of $< 130/80$ mm Hg; and low density "bad cholesterol" (LDL) ≤ 100 mg/dL (or < 70 mg/dL for high risk diabetics). These targets are feasible for younger diabetics or for diabetics of any age who do not have any

complications. However, for older diabetics more modest goals are probably more realistic to prevent not only the complications of diabetes but to prevent as well, the untoward side effects of medications which are attendant to lower treatment goals. The American Geriatric Society in the U.S. gives the following recommendations for the care of older persons with diabetes: glycemic goals of HbA1c $\leq 7\%$ in healthy adults with good functional status and $\leq 8\%$ in frail elders with life expectancy of < 5 years or when risks of intensive glycemic control outweigh benefits; blood pressure $< 140/80$ mm Hg if it is tolerated (or $< 130/80$ mm Hg for relatively healthy elderly); and LDL ≤ 100 mg/dL (2.59 mmol/L) if feasible (12).

Considering the costs of treatment, is there still a rationale for aggressive metabolic and blood pressure control among older persons? Subgroup analysis of several trials including the Cholesterol and Recurrent Events (CARE) trial and the Long-Term Intervention with Pravastatin in Ischemic Disease (LIPID) have proven the benefit of statin therapy on vascular risk for elderly men and women. The Prospective Study of Pravastatin in the Elderly at Risk (PROSPER), a drug trial specifically for elderly showed that use of statins reduced the risk of coronary heart disease and transient ischemic attacks among this population (13,14). Aside from causing an increased risk of cardiovascular events such as myocardial infarction, strokes, and cardiac death, hypertension and diabetes mellitus are also associated with accelerated decline in cognitive and physical functioning (15). Several studies have proven that good blood pressure in the elderly not only decreases the incidence of major cardiovascular events but also reduces the rate of cognitive decline (16,17). The benefits of good blood sugar control is applicable for all age groups; large epidemiologic studies have proven that good glycemic control reduces the incidence of damage to small blood vessels in the body such as the eyes (retinopathy), kidneys (nephropathy) and nerves (neuropathy) (18,19). For all patients but especially for the elderly however, the aggressiveness of therapy must be individualized on the basis of the overall status and capabilities of the patient. When feasible, glucose levels should be lowered as much as possible while avoiding hypoglycemia and other treatment-related side effects (12). Clearly, the quality of life of older individuals and their life expectancy can be improved significantly if the complications of diabetes can be avoided.

However, at best these strategies to reduce diabetes complications involve only secondary prevention. Prevention of complications is not good enough; we must do better. What must be

done is to prevent diabetes and its co-morbid conditions even before they occur; that is, a primary prevention approach. Why such an aggressive approach? This is because at the point of diagnosis of diabetes, hypertension or dyslipidemia, many of these patients already have the complications.

Among the two types of diabetes, Type 2 diabetes is already proven to be preventable. Type 1 diabetes is due to auto-immune destruction of the pancreatic beta cells leading to absolute insulin deficiency. Its initially presentation is typically acute manifesting as diabetic ketoacidosis. The difficulties with prevention of Type 1 diabetes are myriad; not only does it manifest in an explosive manner but it difficult to identify patients who are at risk of developing the disease. Also, clinical studies are still ongoing to test various methods of preventing the disease (11). There are at present no definite preventive strategies for Type 1 diabetes. Fortunately, in most countries including the Philippines, its prevalence is quite low.

Strategies for diabetes prevention are geared towards individuals with Type 2 diabetes mellitus (T2DM). This type of diabetes results from a progressive insulin secretory defect on the background of insulin resistance which may be due to being overweight or obese. T2DM has a long asymptomatic pre-clinical phase which frequently goes undetected. Unfortunately, the disease is not diagnosed until complications appear. According to the landmark trial United Kingdom Prospective Diabetes Study (UKPDS) at the time of diagnosis of T2DM, over half of patients already have one or more diabetes complications (6). Retinopathy rates at the time of diagnosis range from 20 to 40% (7,8). Since the development of retinopathy is related to the duration of diabetes, it has been estimated that T2DM may have its onset up to 12 years before its clinical diagnosis (7). Prevention of complications of diabetes even at the time of the diagnosis of the disease is already too late, because a large proportion of patients already have the complications. The disease itself should be prevented during the asymptomatic pre-clinical phase when the patients is relatively well but is overweight, with a sedentary lifestyle and has IFG or IGT. Recognition of the pre-diabetic stage is therefore important because this is the optimal period for primary prevention. Even when IFG and IGT are not yet present, diabetes prevention can already be started by identifying risk factors for its development.

What are the strategies for the prevention of diabetes? First is the identification of individuals at high risk for developing diabetes mellitus. Testing for the presence of IGT/IFG is necessary to target

intervention efforts to individuals most likely to benefit from preventive efforts. Those most likely to have IGT/IFG are individuals who are overweight and above age 45 years. Younger individuals with additional risk factors, including prior gestational diabetes mellitus, family history of diabetes, and the presence of hypertension or dyslipidemia, should also be considered for screening (9). Reviewing the data from the NNHes, one is struck at the high prevalence of these risk factors for diabetes among Filipinos: nearly a quarter of the respondents were obese (BMI > 25); nearly half had low HDL less than 35 mg/dL; half had elevated LDL more than 130 mg/dL; while another fourth of patients also had hypertension. There is clearly a large opportunity for screening of Filipinos for diabetes. Screening of these high risk individuals may be accomplished by doing either an FBS or an oral glucose tolerance test (OGTT). Once these individuals have been identified, then specific approaches are then done to modify their risk of developing diabetes mellitus.

There is now convincing evidence from controlled clinical trials that lifestyle modification can prevent or delay the development of Type 2 diabetes in high-risk individuals. Several intervention studies, in China (“Da-Qing Study”), Europe (“Malmo study”, “Finnish Diabetes Prevention Study”) and the United States (“Diabetes Prevention Program”), showed that lifestyle changes are able to reduce by around 50% the incidence of type 2 diabetes in at risk individuals. Various pharmacological approaches have also proven their efficacy in preventing T2DM, but in most cases with less impressive reductions of between 25% and 35%. This is the case for metformin, acarbose, orlistat or various inhibitors of the renin-angiotensin system. Drug trials for the prevention of T2DM are also ongoing for rosiglitazone and pioglitazone, two insulin sensitizers of the thiazolidinedione family (10).

Specific recommendations for lifestyle modification to prevent diabetes include: (1) reduction of caloric intake and eat smaller portion sizes; reduce total fat to < 30% of calories and increase fresh fruits vegetables, and dietary fiber; (2) weight loss of 5-7% (minimum) of starting body weight; and (3) regular physical activity equivalent to brisk walking 30 min daily or exercise of moderate intensity for at least 150 min/week. Individualized instructions on exercise, weight loss strategies and dietary modification are highly encouraged although group education could be as effective.

The case for the prevention of diabetes mellitus is very clear; it must be prevented before it has a chance of developing or

progressing. Active screening for diabetes mellitus among high risk individuals must be done. Advocacy to promote a healthy lifestyle among both children and adults is needed, because the prevention of diabetes and many of the so-called lifestyle-related diseases involves increased physical activity and sound nutrition. These primary prevention approaches must be brought to our schools, homes and offices, and indeed in all corners of the country in order to prevent this epidemic from spreading. It must also be done in the context of the bigger picture of preventing the number one killer in the Philippines, which is cardiovascular disease. Prevent diabetes, stop smoking, move more and eat less, these must be our new resolutions to prevent Filipinos from dying of heart attacks and strokes, and to enjoy a more healthy life even during the later years.

References

1. International Diabetes Federation: *Diabetes Atlas, 2nd ed.* Brussels, Belgium, International Diabetes Federation, 2003
2. Dans AL, Morales DD, Velandria F, Abola TB, Roxas A, Punzalan FER, Sy RAG, Paz-Pacheco E, Amarillo L, Villaruz MV. National Nutrition and Health Survey (NNHeS) Atherosclerosis-Related Disease and Risk Factors. *Phil J Int Med*, 43:3, May-June 2005
3. Website of the Philippine Department of Health, Section on Health Statistics. (www.doh.gov.ph/data)
4. National Eye Institute, National Institutes of Health website
5. Western Pacific Declaration on Diabetes, publication of International Diabetes Foundation-Western Pacific Regional Office, the World Health Organization, Regional Office for the Western Pacific and the Secretariat of the Pacific Community. Manila, Philippines 2000
6. Manley SM, Meyer LC, Neil HAW, Ross IC, Turner RC, Holman RR. Complications in newly diagnosed type 2 diabetic patients and their association with different clinical and biochemical risk factors. *UKPDS 6. Diabetes Res* 1990; 13: 1-11.
7. Harris MI, Klein R, Wellborn TA, Knuiman MW. Onset of NIDDM occurs at least 4-7 years before clinical diagnosis. *Diabetes Care* 1992; 15: 815-19.
8. UKPDS Group. UK Prospective Diabetes Study 30; Diabetic retinopathy at diagnosis of type 2 diabetes and its associated risk factors. *Arch Ophthalmol* 1998; 116: 297-303.
9. *Therapy for Diabetes Mellitus and related Disorders (4th edition)*. Lebovitz HE (editor), 2004.
10. Scheen AJ, Letiexhe MR, Ernest P. Prevention of type 2 diabetes: lifestyle changes or pharmacological interventions? [Article in French] *Rev Med Liege*. 2003 Apr; 58(4):206-10.

11. 2005 Clinical Practice Recommendations of the American Diabetes Association. *Diabetes Care* 2005 28: S1-79.
12. Sakharova AV, Inzucchi SE. "Treatment of Diabetes in the Elderly: Addressing its Complexities in this High Risk Group". *Postgraduate Medicine*. November 2005; 118 (5).
13. Shepherd J. "Preventing the Next Event in the Elderly: the PROSPER Perspective". *Atheroscler Suppl* 2003 Dec; 4 (5): 17-22.
14. Shepherd J, et al. "Pravastatin in elderly individuals at risk of vascular disease (PROSPER): a randomized controlled trial". *The Lancet* 2002; 360: 1623-1630.
15. Kuo HK, et al. "Effect of blood pressure and diabetes mellitus on cognitive and physical functions in older patients: a longitudinal analysis of the advanced cognitive training for independent and vital elderly cohort". *J Am Geriatr Soc*; 2005 Jul; 53 (7): 1154-61.
16. Trenkwalder P, et al. "The Study on Cognition and Prognosis in the Elderly (SCOPE)-major CV events and stroke in subgroups of patients". *Blood Press*. 2005; 14 (1): 31-7.
17. Nakamura T, Kanno Y, Suzuki H. "An Angiotensin receptor blocker reduces the risk of congestive heart failure in elderly hypertensive patients with renal insufficiency ». *Hypertens Res*. 2005 May; 28 (5): 415-23.
18. The Diabetes Control and Complications Trial Research Group. "The Effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus". *N Engl J Med* 329: 077-986, 1993.
19. UK Prospective Diabetes Study (UKPDS) Group. "Effect of Intensive blood-glucose control with metformin on complications in overweight patients with type 2 diabetes (UKPDS 34)." *Lancet* 352: 854-865, 1998.

10

Quality of Life in the Health Care of Filipinos – Focus on Cancer Patients

*Corazon A Ngelangel, MD, MS, PhD
& Laurie S Ramiro, MS, PhD*

Traditionally, the end points in health care are assessed through treatment effectiveness outcomes using indicators such as mortality rates and survival indices. However, with the modernization of health technologies, such health outcomes would no longer suffice. In many countries, the number of expected life years is increasing. In addition, many treatment programs have little or no impact on mortality rates. With the WHO redefinition of health which includes social and psychological well-being, alternative approaches to measuring health outcomes now includes an analysis of the patient's quality of life (QOL). This holds true since most high-tech procedures result in adverse effects that leave the patient's everyday life more mortifying.

Cancer as a disease mainly occurs in the older age groups. Hence, cancer management is an important concern among the older age-group population. Indeed of particular interest is the attainment or maintenance of quality of life of an individual in this population who comes down with cancer. What is the overall quality of life of Filipino cancer patients? What are the best indicators of "quality of life" among Filipino cancer patients? Are there significant differences in terms of age, gender, level of education, civil status, stage of cancer and type of treatment?

Cancer management is one area where clinical decision-making becomes a critical and perplexing activity. Routinely, better response or remission rates and prolonged survival are used as gauge for cancer treatment effectiveness. However, both the disease and the various treatment modalities can have a tremendous toll on the patient's social, emotional and physical well-being. Pain has been explicated to be the single most important distress variable among cancer patients in addition to impaired role, which has a negative effect on distress over and above the effects of pain (1). Furthermore, the prevalence of fatigue among patients after cancer treatment was about 61% (2). Other studies indicate a relationship between lung cancer and symptom distress, fatigue and decline in functional status (3). Cancer therapies such as surgery can be mutilating, resulting in physical and psychological trauma. In their study of patients who underwent surgery for oral and pharyngeal cancer, Langius et al (4) found that psychological and physical functioning, sleep, recreation, work, eating, and home management were impaired 2–4 months and 12 months after treatment. Brasilis et al (5) showed that in sexual functioning, continence and hardship, QOL scores of patients with prostate cancer deteriorated 12 months after radical prostatectomy. Studies on women with breast cancer have demonstrated that general psychological distress, marital satisfaction and secular function did not differ comparing mastectomy and breast conservation, although those who underwent mastectomy rated their body image more poorly (6). Cancer patients experienced a significant increase in fatigue over a 5–6 week course of radiotherapy (7). Chemotherapy causes considerable toxicity resulting in hair loss, nausea, vomiting, fatigue and emotional problems. Women with breast cancer and who underwent chemotherapy had more sexual dysfunction, poorer body image and more psychological distress than women who underwent hormonal therapy and radiotherapy. Fatigue was also common 14 days after treatment with chemotherapy (2). With these side effects, the chances of survival must be weighed against the quality of life of the patient. Quality of life (QOL) is an all-encompassing term connoting overall well-being of a person at a given period of time. Clinically, it is a measure of the patient's subjective perceptions and feelings of his health or diseased state and his assessment of the qualitative outcome of medical care. Singer (8) posited that patients with chronic and life threatening diseases such as cancer utilize both physical status and social function to define health and to reestablish self-integrity based on their continued social functioning even in the light of their acknowledged physical condition. While Fayos et al (9) defined QOL as the "ability of the patients to manage their lives..." Hornquist (10) referred to it as "the degree of need

satisfaction within the physical, psychological, social, activity, material, and structural areas". Shaw (11) suggested that QOL is the product of the patient's natural endowment, and the efforts made on his behalf by his family, and by society. Harwood (12) referred to QOL as "the totality of those goods, services, situations, and state of affairs which are delineated as constituting the basic nature of human life which are articulated as being wanted or needed". Lieu (13) thought that QOL is the "output of two aggregate input factors: physical and spiritual". Most of these definitions differ along several dimensions:

- 1) First, some studies measure QOL as a global indicator where several perceived components are weighed and combined to reveal the overall sense of well-being.
- 2) Second, other studies consider only specific life dimensions such as the patient's physical, emotional, social, cognitive, functional and treatment-related state of wellness.
- 3) Third, while some studies emphasize the descriptive nature of the state of well-being or QOL, others provide utility scores that reveal the preferences of the patient with regard to his state of health.

Whichever, QOL measures provide a more accurate assessment of an individual's state of health. QOL can be used to:

- 1) Gauge the reactions of patients to diagnosis and therapy
- 2) Measure the impact of certain treatment modalities on the non-physiological well-being of the patient and consequently use these data in decisions pertaining to the risks and benefits derived from specific treatments, and
- 3) Provide insights into the psychological needs of the patient which can in turn be used to enhance supportive care.

QOL assessments are necessary to develop and maintain the ethical standards of cancer medicine. The relative definition of the concept, however, makes measurement more complicated. Operationally, quality of life is modified by cultural, socio-economic, psychological and health-related factors.

There are several QOL measurement scales. In the Philippines, the University of the Philippines Department of Epidemiology was commissioned by the Department of Health (under the Philippine Cancer Control Program) to make such a scale for Filipinos, the so-called UP-DOH QOL scale. This QOL scale was specifically designed to fill in the need for a culturally appropriate instrument

that could measure the QOL of Filipino cancer patients. The UP-DOH QOL scale (14) defined the QOL of Filipino patients accordingly:

- 1) To Filipino cancer patients, “quality of life” meant:
 - a. Being free from disease
 - b. Feeling well
 - c. Can do the things one has been used to do
 - d. No feelings of pain
 - e. Not being afraid of dying
 - f. Having the means to pay for the treatment; having no financial concerns
 - g. Having a good and comforting doctor
 - h. Not undergoing surgery and chemotherapy because of the negative effect
 - i. Being totally cured; getting out of the hospital
 - j. Knowing that God will not forsake (me)
 - k. Having an understanding and supportive family
 - l. Obtaining emotional support from family, friends and relatives
 - m. Not seeing the husband and children suffer because of (her) ailment
 - n. Ensuring a good future for the children even if (I am) gone
 - o. Can still work and earn money
 - p. Having hope in the future
 - q. Going to the movies and the malls alone and without fear of collapsing
 - r. Having a good memory

More than their own health, majority of the patients expressed anxiety over money matters, the possibility of a premature separation from the family, the family’s reaction to his/ her diseased status, and the effectiveness of treatment. Social support has been viewed both as a positive and a negative factor. Social support encourages and strengthens the patient to “fight” for life; others find his/ her status more painful and distressing, the more the family provides concern, attention and love. God’s mercy has been sought by almost all the subjects.

- 2) Overall however, the QOL of the cancer patients was moderate to high. Physical wellness, cognitive ability and self-care were rated as “moderate.” Emotional well-being and social status were perceived as “high.”

3) Factors affecting QOL were:

- a. Age – younger patients had better QOL than those who were older, particularly in physical, emotional and cognitive well-beings.
- b. Gender – female patients obtained significantly better QOL than males, for all dimensions except for cognitive ability; males suffer from greater mental anguish.
- c. Civil status – single unmarried patients have significantly better QOL than married and separated/ widowed patients, in all dimensions.
- d. Education – the higher education the better QOL, in all domains except for self care and related functions.
- e. Site of cancer - patients with breast, cervical cancers and lymphomas displayed better QOL than those with lung, rectal/ colon and nasopharyngeal cancers.
- f. Stage of disease – stage I/II patients had better QOL than those with late stage disease, particularly in physical and functional domains.
- g. Type of treatment – chemotherapy except when in combination with surgery and pain control, seemed to result in better QOL; among the single treatment methods, pain control and surgery resulted in the poorest QOL, followed by patients who have not undergone treatment at all.

It has been assumed that cancer has a negative impact on the patient's QOL. Indeed it does particularly for older age individuals. Overall however, Filipino cancer patients cope to maintain a moderate to high quality of life. A significant factor contributing to rather good quality of life among Filipino cancer patients is their seemingly strong tendency to find meaning in their suffering. As a nation and individually as well, Filipinos are said to be "survivors." The Filipino's spiritual richness – his great faith and hope in God's plan for his life, his clinging attitude towards God's providence and his often fatalistic and deterministic attitude toward life have given substance to the physical pain and the feelings of emptiness brought about by his diseased status. They can metamorphize themselves from an existentially sick person to an existentially well person. This same spiritual affluence has lead the patients to a strong sense of hope, either imagined or real. In another study among Filipino cancer patients, their relatives and doctors (15), instilling a sense of hope made the patients feel better. It helped them go through the initial stages of anger, denial and grief until they finally learn to accept their health status.

Coupled with this is his deep attachment to his family and friends who reciprocally provide him with the love, concern and caring needed to meet the psychological requirements of his everyday life despite uncertainties. Unlike in many cultures, Filipino families are supportive of one another in times of both greatness and doom. As Cordero et al (16) described, "The Filipino family is an institution of security which protects its members from the exigencies of living. The members are bound to help each other...they protect members against all kinds of misfortunes...."

In this changing times particularly culture-bound, we hope that this unique Filipino culture steadfastly stands the test of time supporting the Filipino in times of greatness and doom, in times of health, psychological, and social illness. The recommendation is for the continued awareness and practice of Filipino values among Filipinos within the family, the schools, the workplace, and the community...

It is also without saying that in terms of cancer as a disease and its management, the patient's QOL will not be so sacrificed if the disease will be prevented or detected most early.

References

1. Lancee WJ, Vachon ML, Ghadirian P, Adair W, Conway B, Dryer D: The impact of pain and impaired role performance on distress in persons with cancer. *Can J Psychiatry* 39(10) 617, 1994.
2. Schover LR: Sexuality and body image in younger women with breast cancer. Monograph National cancer Institute 16,177, 1994.
3. Moinpour CM: Measuring quality of life: An emerging science. *Semin Oncol* 5 suppl (10) 48, 1994.
4. Langius A, Bjovell H, Lind MG: Functional status and coping I patients with oral and pharyngeal cancer before and after surgery. *Head-Neck* 16(6) 559, 1994.
5. Brasilis KG, Santa-Cruz C, Brickman AL, Soloway, MS: Quality of life 12 months after radical prostatectomy. *Br J Urol* 75 (10) 49, 1995.
6. Schover LR, Yetman RJ, Tuason LJ, Meisler E, Esselstyn CB, Hermann RE et al: Partial mastectomy and breast reconstruction. A comparison of their effects of psychosocial adjustment, body image and sexuality. *Cancer* 75(1): 54, 1995.
7. Irvine D, Vincent L, Graydon JE, Bubela N, Thompson L: The prevalence and correlate of fatigue in patients receiving treatment with chemotherapy and radiotherapy. A comparison with fatigue experienced by healthy individuals. *Cancer Nurs* 17 (5) 367, 1994.
8. Singer MK: Redefining health: Living with cancer. *Soc Sc & Med* 37 (3) 295, 1993.
9. Fayos JV and Beland I: An inquiry on the quality of life after curative treatment. In *Head & Neck Oncology Controversies in Cancer Treatment*. (edited by Kager AR) 1981, p 99, Boston Hall, Boston, MA.
10. Hornquist JO: The concept quality of life. *Scan J Med* 10, 57, 1981.
11. Shaw A: Defining the quality of life. *Hastings Center*, 1977.
12. Harwood P de L: Quality of life: descriptive and testimonial conceptualization. *Soc Indic Res* 471, 1976.
13. Liu BC: Quality of life indicators: A preliminary investigation. *Soc Indic Res* 1, 187, 1974.
14. Ramiro LS, Ngelangel CA, Amarillo ML, Streiner D: The UP-DOH QOL scale measures of quality of life of Filipino cancer patients. *Phil J Int Med* 35: 179-188, 1997.
15. Ngelangel CA, Ramiro LS et al: Process of disclosure in Philippine oncological practice. *Phil J Onco*, 2 (1), 13-27, 1996.
16. Cordero FV, Panopio IS: *General Sociology: Focus on the Philippines*. QC: Ken Inc, 1969.

11

Pain Management in the Elderly

Luzviminda Salomon Kwong, MD, DPBA, FPSO

Epidemiology of Pain

Pain is one of the most common complaints in physician offices. It is also one of the most common symptoms of disease. Second only to symptoms of upper respiratory tract infections (1).

Prevalence of back pain has been reported from 21% to 49.5%; joint pain 20.5% to 71%; and headache 1.2% to 50% in persons over the age of 65 years (2). Unrelieved pain may plague at least 80% who live in nursing homes (3,4,5,6,7) while it ranges from 25% to 65% in community-dwelling older persons (2,8,9); most such pain is persistent (2,7,10). In the Intensive Care Unit (ICU), 22% to 70% of patients remember having moderate to severe pain during their ICU stay (11,12,13).

In general, the most common cause of pain in elderly persons is probably related to musculoskeletal disorders such as back pain and arthritis. Neuralgia is common, stemming from common diseases such as diabetes or herpes zoster, and trauma, such as surgery, amputation, and other nerve injuries. Nighttime leg pain (e.g., cramps, restless legs) is also common, as is claudication. Cancer, although not so common as arthritis, is a cause of severe pain that is distressing to patients, families, and staff. The distress of cancer pain has brought attention to the moral, ethical, and legal obligation of clinicians to provide effective pain management near the end of life (14).

Insufficient management of pain results in unnecessary suffering, emotional distress, often exacerbated by depression, delirium, compromised cognitive function, sleep disturbance, functional disability, which foster learned helplessness, social isolation, and greater health care costs due to greater dependency in activities of daily living and thus greater need for nursing care (15,16,17).

Managing pain in the older patient often presents additional challenges such as underreporting of symptoms, multiple medical problems, medication side effects, problems with assessment, problems with communication, mobility and safety issues, as well as consideration of the potential for medical, cognitive, and functional decline (18).

Definition of Pain

The International Association for the Study of Pain defines pain as an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage (21). The definition recognizes the interplay between the objective, physiologic sensory aspect of pain and its subjective, emotional, and psychological components. The response of pain can be highly variable between individuals as well as in the same individual at different times. That is because the patient will express their pain based on their mood when the pain occurred, past experiences, personal beliefs, effect, motivation, environment, and at times, pending litigation (22), and the meanings they attribute to it.

Pain Assessment

The medical evaluation of patients complaining of pain should begin with a thorough history and physical examination. A neurological examination should also be performed looking for signs of autonomic, sensory and motor deficits to rule out neuropathic conditions. In addition to establishing a diagnosis, one should also establish a baseline description of their pain including intensity, frequency, duration, character of pain, as well as precipitating and relieving factors (18). There is no objective measurement (22) or biological marker (23) of pain. The patient's self-report of pain is the most reliable indicator (19) and most valid measurement (24) of pain. Physiological and behavioral (objective) signs of pain (e.g. increase pulse rate, grimacing) are neither sensitive nor specific for pain and should not replace patient self-report unless the patient is unable to communicate (20). Therefore, talking to patients and asking them about their pain (i.e., obtaining a "pain history") is integral to pain assessment. Because many older persons may not refer to their discomfort as "pain," you should try to use their language when soliciting a pain history. Documentation of the location of all sights of pain as well as the pain intensity, description and timing will enable

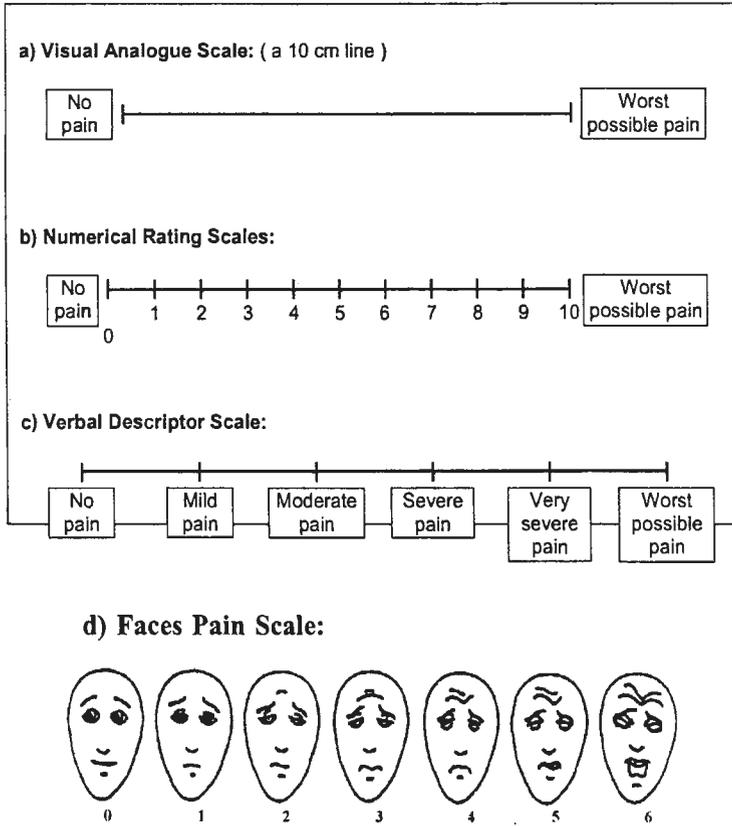
physicians target their assessments and determine the functional implication of the pain. It is also imperative to review previous experiences with analgesics or other therapies (18).

A variety of pain assessment tools have been developed in an attempt to document and follow pain symptoms over time. For example, unidimensional scales such as the visual analog scale (VAS), the numerical rating scale (NRS), verbal descriptor scale (VDS), and the Faces Pain Scale are commonly used to measure pain intensity. (Figure 1). Some of these pain assessment tools can be difficult for some elders to complete because of impairments in vision, hearing, cognition and manual dexterity. However, repeated questioning and use of large print, hearing aids, and different tools can help facilitate responses. Research in both community dwelling and institutionalized elders indicates the VDS to be the easiest to complete (18). However, based on psychometric analyses NRS is preferred pain intensity scale. The American Geriatric Society advocates the NRS (25). VAS is more difficult and should not be used especially with post-operative patients (18,26).

In 1996, the American Pain Society (APS) introduced the phrase "pain as the 5th vital sign"(27). This initiative emphasizes that pain intensity assessment is as important as assessment of the standard four vital signs (i.e. temperature, pulse, respiration, and blood pressure), and that clinicians need to take action when patients report pain (28). Various groups (e.g., the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), APS, American Society of Anesthesiologists) have proposed the use of pain as the fifth vital sign (29). In the Philippines, the Pain Society of the Philippines is disseminating in the hospitals and physicians to use pain score as the fifth vital signs in the hospital charts like in the Temperature, Pulse and Respiration (TPR) sheet and Recovery Room monitoring sheet. Other hospitals who have been accredited as well as those applying JCAHO accreditation are also adopting the Pain as the Fifth Vital Sign.

More comprehensive approaches to pain assessment with multidimensional measures also exist. Melzack has created a simplified version of the McGill Pain Questionnaires (MPQ) known as the Short Form-MPQ (SF-MPQ), which was found usable in older individuals. It includes descriptors representing sensory and affective component of pain. It also measures to evaluate pain intensity such as the VAS and VDS (also known as the Present-Pain Inventory) (18,31,32). Multidimensional pain scales are often laborious and difficult to administer in clinical settings. In general, because of memory impairment and difficulty integrating pain

Figure 1. Unidimensional Pain Intensity Scales or Pain Score (30).



experiences over time, pain measurement is more reliable when the clinician is asking about pain at the moment. A more accurate evaluation may require a pain record or diary with information gathered over several days or weeks (33).

Treatment of Pain

Ideally, effective pain management occurs when the underlying cause of pain is correctly identified and treated (25). However, administration of pain regimen is necessary while treating the underlying cause of the pain. In other scenarios where treating the underlying disease is unattainable, the focus is solely in palliation to make the patient pain free or if not attainable at least to a comfortable level.

Aside from the patient, it is important to involve the relatives and primary caregivers in educating and informing them about the treatment plans. This includes clear, written instructions about pain assessment and potential side effects. Their worries and fears should be discussed and explained. Without their full understanding and cooperation, it is uncommon for bad experiences to cause the patient or their family to fear the drug and lead to noncompliance and needless suffering later on (18).

A compulsive attitude in assessing the pain and side effects should be applied for better pain management. Reassessment of pain relief and side effects should be performed within hours to days and be recorded. Because we are working with a frailer population in whom drug accumulation occurs easily and adverse effects are more common and more devastating (e.g., confusion, aspiration, falls) the importance in assessing side effects cannot be emphasized enough. Adjustments may include changing the drug, dose, or timing of the medication (18).

Pain treatment can be divided into the nonpharmacological and pharmacological interventions.

Nonpharmacological Interventions

Nonpharmacological interventions, used alone or in combination with appropriate pharmacological interventions or analgesic medications, should be an integral part of the care for most elderly patients with significant pain problems. Many of the interventions carry little risk for adverse effects. Although many of these interventions provide short-term relief, few have greater benefits than control groups in randomized trials. Nonetheless, nonpharmacological interventions used in combination with appropriate drug regimens often improve overall pain management, enhancing therapeutic effects while allowing medication doses to be kept to a minimum to prevent adverse drug effects (32).

Nonpharmacological interventions include cold, which can suppress tissue damage. Cold and warmth lead to the release of endogenous opioids, as do other interventions such as transcutaneous electrical nerve stimulation (TENS) and acupuncture. Vibration may reduce pain by causing paresthesia to the area that is stimulated. Other interventions, such as education; relaxation techniques consisting of the use of imagery, progressive muscle relaxation, and rhythmic breathing; distraction techniques like the use of music,

humor, and movement and rhythm; biofeedback (particularly with vascular headaches); or hypnosis, may be useful. The physical and occupational therapy offers a variety of modalities including the use of braces or splints, changes in biomechanics, and exercises. Surgery, nerve blocks and tumor site radiation may also be helpful (32,34,35).

Pharmacological Interventions

For the proper way of using pharmacological intervention in the elderly, the American Geriatric Society recommends the “start low and go slow approach”(25). Because hepatic and renal function often are reduced as a normal part of aging, elderly patients may achieve pain relief from smaller doses of analgesics than those required by younger patients. So, the analgesic can be started at one half to one third of the usual adult dose (18). All pharmacological interventions carry a balance of benefits and burden.

Medications written as “prn” (meaning “as needed”) often assume that the patient knows when to ask or take analgesics, which often is a problem among cognitively impaired patients. If the pain is experienced at predictable times in the routine of their day, standing doses of analgesics should be used to prevent pain. For example, if the patient usually experience pain during the morning routine of getting up, the standing dose should be given 1 hour before arising. If the pain is steady and continuous, maintenance analgesics should be used in “around the clock” basis (18). Rescue dose, which is half the dose of the maintenance, dose must be administration for any exacerbation, episodic or incident pain.

Nonopioid drugs are generally the first line of therapy. The nonopioid drugs are acetaminophen, non-steroidal anti-inflammatory drugs (NSAIDs) and Cyclo-Oxygenase 2 specific inhibitors (Coxibs).

Acetaminophen is commonly prescribed and may be the drug of choice for mild to moderate pain. Maximum dosing should not exceed 4,000 mg; in older adults it may be safer to limit to 3,000 mg per day (31). It must be used cautiously in patients with liver failure.

NSAIDs and Coxibs are used during inflammatory conditions with mild to moderate pain. Both drugs should not be used for long periods of time, should not exceed beyond the recommended dose and should not be used in combinations because it will not confer greater analgesia but rather increases risk of adverse reactions. Of

major concern is the high incidence of adverse reactions including gastro-intestinal bleeding, renal impairment and bleeding diathesis from platelet dysfunction. Coxibs should not be prescribed for patients at high risk of cardiovascular adverse events; long term therapy increases the risk of cardiovascular and thrombotic adverse event (36).

Opioid drugs are used for moderate to severe, acute or chronic pain. It has no ceiling effects or no maximum dose in providing analgesia however there should be no side effects or if not possible, kept to a tolerable level. The side effects are sedation, nausea, vomiting, respiratory depression and constipation. To minimize side effects it can be combined with non-opioids and adjuvant analgesics.

Adjuvants analgesics are antidepressants such as Imipramine and Nortriptyline, and anti-convulsants like the Carbamazepine, Gabapentin and Pregabalin. Adjuvants are used for neuropathic pain. The antidepressants have side effects like sedation, dryness of the mouth and orthostatic hypotension (18).

Management of persistent pain usually means progressing from non-opioid analgesics to anti-inflammatory drugs, neurotransmitter-modulating and membrane-stabilizing drugs, and opioids, while continuously balancing risks and responses to treatments. A combined pain medication regime may also be indicated for certain types of pain such as neuropathic pain, and may include the use of adjuvant drugs such as antidepressants, anxiolytics, and anticonvulsants. The need for frequent monitoring cannot be overstated, as older adults are frequently taking numerous medications for other comorbidities, increasing the chance for drug–drug and drug–disease interactions (25). These patients may also be seeing several health care providers; a thorough drug history is necessary.

Conclusion

We must remember that “success” is relative. Goals often are different in the older population. The goal of care is not to return to work or prolongation of life, but maximization of quality of life. This might include goals such as being able to walk 100 feet independently or being able to play bingo or cards everyday. Although improvements may not necessarily be as dramatic as in the younger population, minimal improvement in pain, mood, functional capacity or activity involvement may lead to large gains in quality of life (18).

References

1. Ferrell BA. Acute and chronic pain. In Cassel CK, Leipzig, RM, Cohen HJ, Larson EB & Meier DE (Eds) *Geriatric Medicine An Evidence-Based Approach* 4th edn, 2003; Springer-Verlag New York.
2. Helme RD and Gibson SJ. The Epidemiology of pain in elderly people. *Clin Geriatr Med* 2001; 17: 417- 431.
3. Roy R, Thomas M. A survey of chronic pain in the elderly population. *Can Fam Physician* 1986; 32: 513 - 516.
4. Ferrell BA, Ferrell BR, Osterweil D. Pain in the nursing homes. *J Am Geriatr Soc* 1990; 38: 409 - 414.
5. Sengstaken EA, King SA. The problem of pain and its detection among geriatric nursing home residents. *Aging Clin Exp Res* 1998; 10: 411-420.
6. Parmelee PA. Assessment of pain in the elderly. In: Lawton MP and Teresi J (Eds), *Annual Review of Gerontology and Geriatrics*. New York: Springer, 1994, pp 281 - 301.
7. Weiner D, Peterson B, Ladd K, McConnell E, Keefe F. Pain in nursing home residents: an exploration of prevalence, staff perspectives and practical aspects of measurement. *Clin J Pain* 1999; 15: 92 -101.
8. Crook J, Rideout E, Browne G. The prevalence of pain complaints in a general population. *Pain*. 1984;18:299 - 314.
9. Mobily PR, Herr KA, Clark K, Wallace RB. An epidemiologic analysis of pain in the elderly. *J Aging Health* 1994;6:139 - 55.
10. Weiner DK, Peterson B, Logue P, Keefe FJ. Predictors of pain self-report in nursing home residents. *Aging Clin Exp Res* 1998; 10: 411-420.
11. Kwekkeboom K, Herr K. Assessment of pain in the critically ill. *Crit Care Clin North Am* 2001; 13(2):181 - 94.
12. Puntillo KA. The phenomenon of pain and critical care nursing. *Heart Lung* 1988;17:262 - 73.
13. Turner JS, Briggs SJ, Springhorm HE. Patients' recollections of intensive care unit experience. *Crit Care Med* 1990;18: 966 - 8.
14. American Geriatrics Society Ethics Committee. The care of dying patients: A position statement. *J Am Geriatr Soc*. 1995; 43:577 – 578.
15. Weiner DK and Rudy TE. Attitudinal barriers to effective pain management in the nursing home. In: Devor M, Rowbotham MC and Wiesenfeld-Hallin Z (Eds). *Proceedings of the 9th World Congress on Pain*. IASP Press Seattle, USA, 2000, pp. 1097-1103.
16. Leo R, Singh A. Pain management in the elderly: use of psychopharmacologic agents. *Ann Long-Term Care* 2002;10(2):37 - 45.

17. American Geriatrics Society Panel on Chronic Pain in Older Persons. The management of chronic pain in older persons. *J Am Geriatr Soc* 1998;46:635 - 51.
18. Won AB. Pain in the elderly. In: Warfield Ca and Fausett HJ. *Manual of Pain Management* 2nd ed 2002, Lippincott Williams & Wilkins, USA, pp.373-380.
19. Brookoff D. Chronic pain: 1. A new disease? Hospital Practice available at www.hosppract.com/issues/2000/07/brook.htm. Accessed June 2001.
20. Jacox AK, Carr DB, Chapman CR, et. al. Acute pain management: operative or medical procedures and trauma clinical practice guideline no. 1. Rockville, MD: US Department of Health and Human Services, Agency for Health Care Policy and Research; 1992. AHCPR publication 92-0032.
21. International Association for Study of Pain. Pain terms: a list with definitions and notes on usage. *Pain* 1979; 6:249 - 52.
22. LeBel AA. Assessment of pain. In: Ballantyne J (Ed). *The Massachusetts General Hospital Handbook of Pain Management* 2nd Ed 2002, Lippincott Williams & Wilkins, USA, p 58.
23. Ellen Flaherty, RN Assessing Pain In Older Adults. In: Meredith Wallace (Series Ed). *Try This: Best Practices in Nursing Care to Older Adults* from the Hartford Institute for Geriatric Nursing. Number 7, January 2000 Series.
24. Bednash G, Ferrell BR. Pain and symptom management in end of life care. *CME Resource* 2002; 89 (3): 21 - 68.
25. American Geriatrics Society Panel on Persistent Pain in Older Persons. The management of persistent pain in older persons. *J Am Geriatr Soc* 2002; 6: S205 - 24.
26. Gagliese L, Weizblit N, Ellis W, and Chan VWS. The measurement of postoperative pain: A comparison of intensity scales in younger and older surgical patients. *Pain* 117 (2005) 412 - 420.
27. Campbell J. Pain as the 5th vital sign {presidential address}. American Pain Society, November 11, 1996.
28. Max MB, Payne R, Edwards WT, et al. Principles of analgesic use in the treatment of acute pain and cancer pain. 4th ed. Glenview, IL: American Pain Society; 1999.
29. Section V: Strategies to improve pain management. In: Berry, PH, Chapman CR, Covington EC, Dahl JL, Katz JA, Miaskowski C, and MaLean MJ (Eds). *Pain: Current Understanding of Assessment, Management, and Treatments*. p 74 - 78.
30. Fitzgibbon DR and Chapman CR. Cancer pain: assessment and diagnosis. In: Loeser JD (Ed) *Bonica's Management of Pain* 3rd edn. 2001, Lippincott Williams & Wilkins, USA, p 628.

31. Polomano RC. Pain. In: Cotter V, Strumpf N, editors. *Advanced Practice Nursing With Older Adults. Clinical Guidelines*. New York: McGraw-Hill; 2002. p. 333 - 60.
32. Fulmer TT. Goals of care. In: Fulmer TT, Foreman MD, Walker M, editors (Montgomery KS, assist editor). *Critical Care Nursing Of The Elderly*. 2nd edition. New York: Springer; 2001. p. ix - xiii.
33. Ferrell BA & Chodosh J. Pain management. In: Hazzard WR, Blass JP, Halter JB, Ouslander JG & Tinetti ME (Eds). *Principles of Geriatric Medicine and Gerontology* 5th edn. 2003, McGraw-Hill, USA, pp 303 - 321.
34. Titler MG, Rakel BA. Nonpharmacologic treatment of pain. *Crit Care Clin North Am* 2001; 13 (2): 221 - 9.
35. Gloth III FM. Pain management in elderly patients. In Aronoff GM (Ed). *Evaluation and Treatment of Chronic Pain* 3rd Edn. 1999. Lippincott Williams & Wilkins, Maryland, pp 411 - 419.
36. Pfizer. Celebrex Product Information. Australia, March 2005

12

Lipid Screening and Management in the Filipino Elderly

Eugenio B. Reyes, MD, FPCP, FPCC

Introduction

The average life expectancy of Filipinos has increased from 63.1 years in 1994 to 69 years in 2001.(1) Females (72 years) on the average outlive males (68.7 years). The burden of illness due to non-communicable diseases is increasing and is currently the leading cause of death and disability. Diseases of the heart and of the vascular system accounted for 15.8% (76.3 deaths per 100,000 population) and 11.7% (56.6 deaths per 100,000 population), respectively, of the total deaths in 1997 (1).

Among the risk factors for Coronary Heart Disease and other atherosclerotic vascular diseases in Filipinos, high total cholesterol and LDL-cholesterol have practically doubled in prevalence while the others remain relatively the same (2). Due to this increasing burden of Dyslipidemias in the Philippines, the Philippine Heart Association has embarked in developing a Clinical Practice Guidelines (CPG) for the management of dyslipidemias specifically designed for Filipinos (3).

The 2004-2005 Philippine CPGs on Dyslipidemias unlike other guidelines focused on both science and equity. Sponsored by The International Clinical Epidemiology Network (INCLLEN) and guided

Risk factors	1998 (%)	2003 (%)
Current smoker (age ≥ 20)		
Male	53.9	56.3
Female	12.6	12.1
Hypertension	17.2	17.4
Diabetes mellitus		
FBS (>125mg/dL)	3.9	3.4
History of diabetes		4.6
High total cholesterol		
>200 mg/dL	15.9	28.0
>240 mg/dL	4.0	8.5
High LDL		
>130 mg/dL	23.8	31.5
>160 mg/dL	8.1	11.7
Low HDL	65.4*	54.2**
Obesity (BMI >25)	20.2	23.9
* <35 mg/dL in 1998** <40 mg/dL in 2003 BMI, body mass index.		

by its development cycle (4), the “disadvantaged” or “marginalized” populations were identified and defined to be those who:

- Live below the poverty threshold of 12,267.00 pesos (as of 2003)
- Cannot afford tests/exams and drug treatments
- Have limited access or no access to health care
- Are undernourished (e.g., have a BMI <18.5 kg/m²).

The elderly population as a special group was discussed in-depth. They were not considered a marginalized group for the following reasons: Age, is a major, non-modifiable and independent risk factor for atherosclerotic vascular disease and is always considered in the risk stratification of individual patients; although the significance of dyslipidemias or hypercholesterolemia as a cardiovascular (CV) risk factor in the elderly has been widely debated, there are already available evidences from randomized clinical trials that lowering elevated low-density lipoprotein cholesterol in the elderly reduces cardiovascular risk; furthermore, the prevalence of hypercholesterolemia among Filipinos increases with age (see table 2) and a significant proportion of Filipinos 60 years and older have elevated cholesterol.

Age	Mean Total Cholesterol mg/dL	% with total cholesterol <160 mg/dL	% with total cholesterol 160-199 mg/dL	% with total cholesterol 200-239 mg/dL	% with total cholesterol >=240 mg/dL
20-29	172.1	40	46.4	10.3	3.3
30-39	181.3	28	48	18	6
40-49	190.5	21.6	41.7	27.1	9.6
50-59	201.7	21.4	31.4	27.3	19.9
60-69	198.1	21	35.7	27.7	15.6
>=70	196.6	21.5	35.7	27.4	15.4

Approximately 43% of Filipinos 60 years and older have total cholesterol greater than 200 mg/dL and more than 15% have total cholesterol greater than 240 mg/dL

Age	Mean LDL mg/dL	% with LDL <130 mg/dL	% with LDL between 130-159 mg/dL	% with LDL between 160-189 mg/dL	% with LDL >=190 mg/dL
20-29	109.2	82.6	13.1	2.8	1.5
30-39	116.5	73.2	19.2	5.5	2.1
40-49	123.3	60.5	25.1	9.8	4.5
50-59	134.1	48.6	25.1	18	8.3
60-69	132.1	52.7	25.3	14.6	7.4
>=70	131.7	53.4	24	15.6	7

Approximately 22% of the elderly population have LDL-cholesterol levels greater than 160 mg/dL

Risk Factors for CHD and Vascular Disease in the Elderly

'People with prior CAD or any atherosclerotic vascular disease or diabetes mellitus are considered at risk for a new cardiovascular event. Those with 3 or more of the following: hypertension, familial hypercholesterolemia, left ventricular hypertrophy, smoking, family history of premature CAD, male sex, age >55 years, proteinuria/microalbuminuria, Obesity (BMI \geq 30)(3) are also considered at risk

of developing CHD and other atherosclerotic vascular diseases (MI, Unstable angina, stable angina, stroke, and peripheral vascular disease). The elderly with prior cardiovascular disease of course put them at a higher risk, and the elderly without prior cardiovascular disease needs only 2 additional risk factors to make them at a higher risk for CAD. However, the mere fact that they have reached the old age means that their absolute risk is relatively low and that these additional risk factors are pretty well inert or controlled. So the value of treating hypercholesterolemia in the elderly may not be that efficient. On the contrary evidences have emerged that treating hypercholesterolemia in the elderly reduced the risk for CHD.

Evaluation of Clinical Trial Data

Although the 2004–2005 clinical practice guidelines for the management of Dyslipidemias in the Philippines did not make separate statements for the elderly, they were considered part of the recommendations for the general population. The guidelines did not put any age limitations to screening and treatment. This goes to show that age, as indicated in the list of risk factors, is a part of the evaluation process.

For the purpose of this review of recommendations for the treatment of dyslipidemias in the elderly, some important trials are worth mentioning. Clinical trial data from studies, such as the Heart Protection Study (HPS) (5), Anglo-Scandinavian Cardiac Outcomes Trial - Lipid Lowering Arm (ASCOT-LLA), (6) and Prospective Study of Pravastatin in the Elderly at Risk (PROSPER) (7), provide valuable insight regarding the treatment of dyslipidemia in the elderly. But before going to drug therapy trials, it is important to emphasize non-pharmacologic treatments and where the evidences came from. Two meta-analyses which were used in the development of the Philippine Lipid Guidelines, a Cochrane review by Hooper et al (8) and a quantitative meta-analysis by Clarke et al (9) both of which included randomized controlled trials (RCT's) on dietary interventions which involved patients aged 20 to 86 years. Dietary interventions were generally characterized by a recommended total fat intake ranging from 30% to 40% of total caloric intake or a reduction in fat intake to about 35 to 40 g/day. Dietary cholesterol intake recommendations ranged from >300 mg/day, to approximately 450 mg/day, to 100 mg for every 1,000 kilocalories consumed daily. The study clearly showed dietary interventions have reduced CV events especially among those who maintain dietary interventions for >2 years. No cost-effectiveness study on low- or modified-fat dietary interventions has been made locally, but dietary interventions in the

form of advice is generally very cost-effective and should be recommended. As patients vary with regard to nutritional status and lipid levels, there remains the need for clinicians to provide patient-specific and -appropriate dietary advice.

Clinical trials have unequivocally demonstrated that treatment of dyslipidemia with statins reduces cardiovascular events both in primary and secondary prevention situations. Unfortunately, large trials, such as the West of Scotland Coronary Prevention Study (WOSCOPS) (10), excluded patients over age 65; the Scandinavian Simvastatin Survival Study (4S) (11) excluded patients older than 70; and the Cholesterol and Recurrent Events (CARE)(12) and Long-Term Intervention with Pravastatin in Ischaemic Disease (LIPID) (13) trials excluded patients over the age of 75.

The Heart Protection Study randomized 20,563 patients aged 40-80 years with 10,697 patients aged 65 years and over with coronary disease, other occlusive arterial disease, or diabetes to either Simvastatin 40 mg or placebo during a scheduled 5-year treatment period (5) All-cause mortality and coronary death was significantly reduced in the Simvastatin group,

The PROSPER (7) randomized an elderly patients aged 70-82 years with, or at risk of developing, vascular disease (coronary, cerebral, or peripheral) to Pravastatin (40 mg per day; n = 2891) or placebo (n = 2913). Pravastatin lowered LDL-C concentrations by 34% and demonstrated a 15% relative risk reduction in the composite primary end point of coronary death, nonfatal MI, and fatal or nonfatal stroke over a mean follow-up duration of 3.2 years (hazard ratio, .85; 95% confidence interval [CI], .74-.97; $P = .014$). CHD death and nonfatal MI risk were also reduced (hazard ratio, .81; 95% CI, .69-.94; $P = .006$).

The Anglo-Scandinavian Cardiac Outcomes Trial - Lipid Lowering Arm (ASCOT-LLA) (6) randomized 10,305 Men and women aged between 40 and 79 years (mean 63) with either untreated hypertension ($> 160/100$), or treated hypertension ($> 140/90$) with no history of CHD to atorvastatin 10 mg or placebo for 3 years. Total Mortality and CV death were not reduced, however, MI was reduced by 37%, stroke by 27%, and total CV events by 28%

The TNT was a randomized clinical trial that prospectively assessed the efficacy and safety of treating patients with stable CAD to LDL-C levels significantly below 100 mg/do (14). The

TNT trial compared the effects of a lower goal of LDL-C reduction with high-dose (80 mg) atorvastatin to current LDL goal, with low-dose (10 mg) atorvastatin, and included patients as old as 75 years. At the end of a 5-year follow-up period, the mean LDL-C level in the high-dose atorvastatin group was 77 mg/dL compared with 102 mg/dL in the lower dose group. There was a significant (> 20%) reduction in the primary combined end point of death, MI, and stroke in the lower LDL-C group.

Screening of the elderly with dyslipidemias

The following are the recommendations of the Philippine Lipid Guidelines on screening specifically modified for the elderly Filipinos. Elderly was not defined in the guideline rather we set age 55 to be at a higher risk. From the discussions, age did not become a limiting factor but rather the overall risk of the patient

1. In elderly patients with less than 2 risk factors, no history or symptoms of established atherosclerosis, the screening of lipid levels is not recommended.

Screening is performed to detect unrecognized health risks or asymptomatic disease to permit prevention and timely intervention (15). However, no drug therapy was recommended for patients with no risk factors and history, or symptoms of established atherosclerosis or previous CVD because of uncertain benefits and high costs (10,16). The only recommended interventions for such patient are non-pharmacological, such as diet and exercise which should be instituted regardless of lipid levels. Hence, the determination of lipid levels for screening does not assist decision-making regarding patient management and is therefore not recommended.

2. In elderly patients without established atherosclerosis but with ≥ 2 risk factors, lipid profile may be recommended.

Among patients with multiple risk factors but no established atherosclerosis, clinical evidence indicates benefit even in the elderly population. These guidelines recommend statins as a preventive pharmacological intervention (6,17). In this subgroup, statins may be initiated when total cholesterol ≥ 190 mg/dL or LDL ≥ 100 mg/dL. Therefore, the determination of lipid levels may be helpful whenever statin therapy is being considered in this patient subgroup.

3. In elderly patients with established atherosclerosis or diabetes, the use of lipid profile for screening is recommended.

These guidelines recommend statins in patients with atherosclerosis or diabetes, wherein therapy is initiated in patients with total cholesterol ≥ 190 mg/dL or LDL ≥ 100 mg/dL. In addition, fibrates are recommended as an alternative to statins if HDL ≤ 35 mg/dL and LDL ≤ 90 mg/dL. Therefore, the determination of lipid profile is helpful in identifying patients where pharmacotherapy is appropriate.

4. Screening may be performed using a lipid profile to identify the presence of specific lipid derangements (e.g., total cholesterol ≥ 190 mg/dL, LDL ≥ 100 mg/dL or HDL ≤ 40 mg/dL). However, the decision to screen and the method of screening should be made after careful patient education and cost consideration. Patients who opt not to be screened may still be given the option to make an informed choice to initiate statins.
5. Monitoring of lipid levels may be recommended. Patients should be provided with proper and adequate information and education regarding monitoring options for them to be able to make an informed choice

Management of the elderly with dyslipidemias

1. To reduce the overall CV risk, all patients regardless of their present morbid condition or risk profile should be advised on the need for:
 - Smoking cessation;
 - Weight management;
 - Regular physical activity; and
 - Adequate blood pressure monitoring and control (24).
2. For patients at any level of cardiovascular (CV) risk, especially those with established atherosclerosis, a low-fat, low-cholesterol diet is recommended for life (8,9).
3. In poorly nourished and elderly patients, correction of nutritional deficiencies can be achieved even with a low-fat, low-cholesterol diet (8,9).
4. For low-risk* patients without evidence of atherosclerosis, drug therapy is not recommended, regardless of lipid levels (6,10,16).

*Have <2 of the following risk factors: hypertension, familial hypercholesterolemia, left ventricular hypertrophy, smoking, family history of premature CAD, male sex, proteinuria/microalbuminuria, BMI ≥ 30 .

5. For elderly patients without established atherosclerosis but with ≥ 2 risk factors and total cholesterol ≥ 190 mg/dL or LDL ≥ 100 mg/dL, statins may be recommended (6,24)
6. For diabetic patients without evidence of atherosclerosis and with total cholesterol ≥ 190 mg/dL or LDL ≥ 100 mg/dL, statins are recommended (5,6,10,16).
7. Fibrates may be recommended as an alternative to statins in diabetic patients with HDL ≤ 35 mg/dL and LDL ≤ 90 mg/dL (20,21).
8. For patients with established atherosclerosis and total cholesterol ≥ 190 mg/dL or LDL ≥ 100 mg/dL, statins are recommended (5,7,11,12,13,26).
9. Fibrates may be recommended *as an alternative to statins* if HDL ≤ 35 mg/dL and LDL ≤ 90 mg/dL (22,27).

Recommendations for drug therapy

Initiation of therapy

Based on the consensus guidelines on primary and secondary prevention, the initiation of statins is an option in patients with no established atherosclerosis but has multiple risk factors and total cholesterol ≥ 190 mg/dL or LDL ≥ 100 mg/dL. It is recommended in diabetes patients and those with established atherosclerosis, when total cholesterol ≥ 190 mg/dL or LDL ≥ 100 mg/dL. However, costs should be considered among the underprivileged, and the panel consensus is that for patients who opt to defer screening, the initiation of statin therapy may still be given as an option after proper patient education (informed patient choice).

The following statin doses have been used in clinical studies and have demonstrated an approximate LDL reduction of 30% to 40% from baseline (5,6,12,16,18,19):

- Lovastatin 20 to 40 mg/day;
- Atorvastatin 10 mg/day;

- Pravastatin 10 to 20 mg/day;
- Fluvastatin 80 mg/day; or
- Simvastatin 20 to 40 mg/day.

Fibrates may be initiated *as an alternative to statins* in diabetic patients with no established atherosclerosis and with HDL ≤ 35 mg/dL and LDL ≤ 90 mg/dL.

The following fibrate regimens were used in clinical studies (20,21,22,23):

- Gemfibrozil 1,200 mg/day;
- Fenofibrate 200 mg/day; and
- Bezafibrate 400 mg/day.

The risk for adverse drug reactions such as abnormal liver function tests was outweighed by the big benefits of treatment. We do not recommend monitoring of liver enzymes.

Target for treatment

The role of LDL in atherogenesis is well established and elevated LDL is a significant CV risk factor.⁵ Pre-statin and statin trials in which LDL reduction was the major lipid response and resulted in improvements in coronary lesions and clinical outcomes further substantiate the role of LDL as a target of therapy. In near-optimal treatment, significant risk reductions are observed with approximately 30% to 40% LDL reduction from baseline. This may be translated to an approximate LDL reduction of 38 mg/dL (1 mmol/L). Furthermore, studies that evaluated intensive statin therapy, such as the PROVE-IT and the Treating to New Targets (TNT) trials, showed that when LDL is decreased to <77 mg/dL through intensive statin therapy (e.g., atorvastatin 80 mg/day instead of 10 mg/day), additional CV benefit were observed (although serious adverse events were also increased). Therefore, a 30% to 40% LDL reduction from baseline or LDL <77 mg/dL are suitable treatment goals.

Recommendations for the oldest old

Reducing LDL-C has been shown to decrease cardiovascular events to 82 years of age, but studies are needed to explore the efficacy of lipid-lowering therapy in individuals older than 80 years. The magnitude of delay in progression of atherosclerotic disease in response to screening-guided therapy has not been well delineated.

The cost-effectiveness of lipid screening in the so-elderly population, as well as the subgroups that would benefit most from such screening, need to be further studied.

References

1. Field Health Service Information System. DOH Publications. Department of Health, Republic of the Philippines
2. Dans A, Morales D, et al. National Nutrition and Health Survey (NNHeS): Atherosclerosis-related disease and risk factors. *Phil J Int Med* 2005;43
3. The 2004-2005 Clinical Practice Guidelines for the Management of Dyslipidemias in the Philippines
4. The International Clinical Epidemiology Network (INCLEN). Knowledge Management Plus: The INCLEN Guideline Development Cycle.
5. Heart Protection Study Collaborative Group. MRC/BHF Heart Protection Study of cholesterol lowering with simvastatin in 20,536 high-risk individuals: a randomised placebo-controlled trial. *Lancet*. 2002;360:7-22
6. Sever PS, Dahlof B, Poulter NR, et al. Prevention of coronary and stroke events with atorvastatin in hypertensive patients who have average or lower-than-average cholesterol concentrations, in the Anglo-Scandinavian Cardiac Outcomes Trial — Lipid Lowering Arm (ASCOT-LLA): a multicentre randomised controlled trial. *Lancet*. 2003;361:1149-1158
7. Shepherd J, Blauw GJ, Murphy MB, et al. Pravastatin in elderly individuals at risk of vascular disease (PROSPER): a randomised controlled trial. *Lancet*. 2002;360:1623-1630.
8. Hooper L, Summerbell CD, Higgins JPT, et al. Reduced or modified dietary fat for preventing cardiovascular disease (Cochrane Review). In: *The Cochrane Library*, Issue 2, 2004. Chichester, UK: John Wiley & Sons, Ltd.
9. Clarke R, Frost C, Collins R, et al. Dietary lipids and blood cholesterol: quantitative meta-analysis of metabolic ward studies. *BMJ* 1997;314:112-117.
10. Shepherd J, Cobbe SM, Ford I, et al. Prevention of coronary heart disease with pravastatin in men with hypercholesterolemia. West of Scotland Coronary Prevention Study Group. *N Engl J Med*. 1995;333:1301-1307

11. Randomised trial of cholesterol lowering in 4444 patients with coronary heart disease: the Scandinavian Simvastatin Survival Study (4S). *Lancet*. 1994;344:1383-1389.
12. Sacks FM, Pfeffer MA, Moye LA, et al. The effect of pravastatin on coronary events after myocardial infarction in patients with average cholesterol levels. Cholesterol and Recurrent Events Trial investigators. *N Engl J Med*. 1996;335:1001-1009
13. Hunt D, Young P, Simes J, et al. Benefits of pravastatin on cardiovascular events and mortality in older patients with coronary heart disease are equal to or exceed those seen in younger patients: results from the LIPID trial. *Ann Intern Med*. 2001;134:931-940..
14. LaRosa JC, Grundy SM, Waters DD, et al; Treating to New Targets (TNT) Investigators. Intensive lipid lowering with atorvastatin in patients with stable coronary disease. *N Engl J Med*. 2005;352:1425-1435
15. Task Force on Philippine Guidelines on Periodic Health Examination. Philippine Guidelines on Periodic Health Examination (PHEX). *Effective Screening for Diseases among Apparently Healthy Filipinos*. Dans AL, Morales DD, eds. Manila: The Publications Program, University of the Philippines, Manila;2004.
16. Downs JR, Clearfield M, Weis S, et al. Primary Prevention of Acute Coronary Events With Lovastatin in Men and Women With Average Cholesterol Levels: Results of AFCAPS/TexCAPS. *JAMA* 1998;279:1615-1622.
17. The Lipid Research Clinics Coronary Primary Prevention Trial Results: Reduction in Incidence of Coronary Heart Disease. *JAMA* 1984;251::351-364.
18. Colhoun HM, Betteridge DJ, Durrington PN, et al. Primary prevention of cardiovascular disease with atorvastatin in type 2 diabetes in the Collaborative Atorvastatin Diabetes Study (CARDS): multicentre randomized placebo-controlled trial. *Lancet* 2004;364:685-696
19. Snow V, Aronson MD, Hornbake ER, et al. Lipid control in the management of type 2 diabetes mellitus: a clinical practice guideline from the American College of Physicians. *Ann Intern Med* 2004;140:644-649.
20. Diabetes Atherosclerosis Intervention Study Investigators. Effect of fenofibrate on progression of coronary-artery disease in type 2 diabetes: the Diabetes Atherosclerosis Intervention Study, a randomised study. *Lancet* 2001;357:905-910.

21. Elkeles RE, Diamond JR, Poulter C, et al. A double-blind placebo-controlled study of bezafibrate: the St. Mary's, Ealing, Northwick Park Diabetes Cardiovascular Disease Prevention (SENDCAP) Study. *Diabetes Care* 1998;21:641-648.
22. Rubins HB, Robins SJ, Collins D, et al. Gemfibrozil for the secondary prevention of coronary heart disease in men with low levels of high-density lipoprotein cholesterol. Veterans Affairs High-Density Lipoprotein Cholesterol Intervention Trial Study Group. *N Engl J Med* 1999;341:410-418.
23. Secondary prevention by raising HDL cholesterol and reducing triglycerides in patients with coronary artery disease: the Bezafibrate Infarction Prevention (BIP) study. *Circulation* 2000;102:21-27.
24. Yusuf S, Hawken S, Ôunpuu S, et al. Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): case-control study. *Lancet* 2004;364:937-952
25. The ALLHAT Officers and Coordinators for the ALLHAT Collaborative Research Group. Major Outcomes in Moderately Hypercholesterolemic, Hypertensive Patients randomized to Pravastatin vs Usual Care: The Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial. *JAMA* 2002;288:2998-3007.
26. Athyros VG, Papageorgiou AA, Mercouris BR, et al. Treatment with Atorvastatin to the national Cholesterol Educational Program Versus 'Usual' Care in Secondary Coronary Heart Disease Prevention: The GREek Atorvastatin and Coronary-heart-disease Evaluation (GREACE) Study. *Curr Med Res Opin* 2002;18:220-228.
27. Secondary prevention by raising HDL cholesterol and reducing triglycerides in patients with coronary artery disease: the Bezafibrate Infarction Prevention (BIP) study. *Circulation* 2000;102:21-27.
28. Cannon CP, Braunwald E, McCabe CH, et al. Intensive versus Moderate Lipid Lowering with Statins after Acute Coronary Syndromes. *N Engl J Med* 2004;350:1495-1504.
29. LaRosa JC, Grundy SM, Waters DD, et al. Intensive Lipid Lowering with Atorvastatin in Patients with Stable Coronary Disease. *N Eng J Med* 2005;352:1425-1435.

13

Early Detection of Cervix Cancer in the Philippines

*Corazon A Ngelangel, MD, MS, PhD
& Laurie S Ramiro, MS, PhD*

In the UP-DOH QOL study (1), late stage patients had poorer QOL than those with early stage cancer, particularly in physical and functional domains. And older patients had poorer QOL than those who were younger, particularly in physical, emotional and cognitive well-beings. So let us say, particularly among older individuals, if we cannot prevent the cancer from occurring and we aim for better QOL despite the disease, it would be best to detect the disease early.

In the same UP-DOH QOL study, patients with breast, cervical cancers and lymphomas displayed better QOL than those with lung, rectal/colon and nasopharyngeal cancers. For now, we discuss the early detection of cervix cancer.

Causes of cervical cancer in the Philippines (2)

Cervix cancer ranks the second top cancer among Filipino women, affecting reproductive to elderly age groups. Human papilloma virus (HPV) is the central cause of adenocarcinoma/adenosquamous carcinoma of the uterine cervix – HPV DNA was detected in 93.8% of case subjects with squamous cell carcinoma (age-adjusted OR= 156 (95% CI=87-280)) and in 90.9% of case subjects with adenocarcinoma/adenosquamous carcinoma (age-adjusted OR= 111 (95% CI= 31-392)) compared with 9.2% of control subjects. Among

HPV types other than types 16 and 18, the associations of HPV with risk of squamous cell carcinoma were strongest for HPV 45. In addition to HPV, high parity (the more frequent exposure of the cervix to HPV infection), low socioeconomic status (the less accessibility to early screening and adequate treatment), and smoking (a co-carcinogen) were also associated with both types of cervical cancer. Cervical cytology screening offers a strong protection.

Prevention and early detection of cervix cancer in the Philippines

Indeed, cervical cytology screening offers a strong protection. HPV infection of the cervix can lead to development of atypia or cervical intraepithelial neoplasia (CIN) I, 60% of which can regress with 2-3 years. However 15% of CIN I can progress to CIN II/ III/ CIS (carcinoma-in-situ) within 3-4 years and subsequently 30-70% of CIN II/III/ CIS can progress to invasive cancer in 10 years. The younger the cervix the more vulnerable it is to HPV infection – screening must start within 2-10 years of first sexual contact, and continue on until 65 years of age or more. Within the timeframe of 2-10 years, cervical cytology screening offers a strong primary and secondary prevention against the development of invasive cancer, resulting to 99% survival rates from cervical cancer in communities with well-organized cytology screening programmes.

However, the cervical cancer-screening model involving a Pap test at intervals of 3 years or more followed if necessary by intensive treatment of dysplasia (CIN II/III/CIS) is inappropriate in most developing countries (3). In these countries, resources are lacking to implement such a model. Cytologic screening requires infrastructure, technical expertise, and regular tracking of women who test positive (4). In India (1992), even with a 12-fold increase in staff trained in cytologic evaluation, only ¼ of the female population aged 35 years or more could possibly be screened by the next century (5). Likewise, Ngelangel CA and Limson GM et al (6) concluded that the cervical cancer screening was in a poor state in the Philippines. They indicated that although the sensitivity of acetic acid visualization of the cervix is low, cytology proved a less effective and efficient screening method.

Sociocultural problems exist (many women have little knowledge of cervical cancer symptoms and potential cure, and of the necessity of follow-up visits; moreover, they have a poor attitude towards cancer). Ramiro LS and Ngelangel CA (7) indicated that about overall, 12-25% of Filipino women submit themselves for cervical cancer screening, and that accurate information about screening and perceptions of risks were low. Decisions to seek future cervical consultations were, however, moderately high. But these intentions can be modified favorably by several factors including the presence of family history of cancer, being married, younger age of woman, active sexual activity, have ≥ 3 children, lower degree of anxiety over the procedure, and higher likelihood of the disease. Similarly in another study (8), civil status, level of education, number of children, family history of cancer and perceived risk of cancer can best predict compliance to cervical cancer screening among Filipino women.

Filipinos in general value their health only when they have reached a point of deterioration and disability. There is a tendency to look at one's health condition and well-being when disease and illness sets and worsens. One of the obvious reasons for this predicament is poverty. Poverty, both from the macro and micro view, makes health services inaccessible to a number of people. People do not seek medical attention especially for "light" cases, because they do not have the means to pay for consultation, much more the means to buy medicines and drugs to alleviate their ill-health condition. The lack of resources contributes to the failure to make readily available whatever technology and services are due to the people.

But even with health services that are provided free of charge, it seems enigmatic to imagine why people do not seek help and medical attention. Health beliefs and values have inhibitory functions to health seeking and disease prevention. Filipinos believe in the scientific explanations of health, disease and illness but traditional health beliefs and practices also persist. For example, walking during menstruation, taking a bath during menstruation and certain types of food, sexual and hygienic practices are enduring because their 'presupposed effectiveness' have been passed on from one generation to another. Decades of experience in health promotion

showed the difficulty or even the improbability of eliminating these traditional paradigms. Recent strategies focused on the use of traditions as benchmark to motivating people to comply with the scientific paradigms as long as these beliefs and practices do not go counter against evidenced-based procedures. As a striking example, the concept of Pap smear being a 'clean-up' procedure can be used to attract women to visit the clinics for cervical examination. Indeed, going for cancer screening would include examination of the cervix and other external genitalia parts, looking for pathology for early treatment or prophylaxis against more serious disease ('cleaning') and/ or making sure this part of the woman's body is 'clean.'

The study (7) also implied that not all high-risk individuals will consider themselves as susceptible to developing cervical cancer and that the influence of persons and events outside the medical profession or outside the health center premises should be considered. Spiritual dependence on one's fate was shown to be a strong cognitive factor. Family members particularly the husband and parents as well as information from friends and relatives were found to be the most powerful agents in the health seeking behavior of the Filipino woman.

In summary, the cervical cancer burden of the Philippines cannot be ignored with the knowledge that there are effective primary and secondary preventive methods against it. Preventive programs against this disease in the Philippines must be improved. If a nationwide screening program is to be established, it must be well organized. Acetic acid visualization is recommended as the initial screening method of choice for such a low-resource setting. Traditional cytology and or colposcopy-biopsy must follow positive screening for definitive histopathology diagnosis. Consequently, changes must occur in the public health policy, mainly in the improvement of screening, colposcopy, and pathology units, as well as the improvement if continuing education for health care providers, of strategies for the compliance of target women, and of health insurance coverage for preventive services. The Department of Health must take the lead, with collaboration from various government and non-government agencies. Regular public information and education campaigns must be a mainstay. The long-term evaluation of the relative protection given by acetic acid visualization of the cervix should be incorporated in the program.

It is to emphasize that compliance to cervical screening examinations would spell the success of the screening program and so the following protective factors can be utilized in the design of preventive program:

- 1) Cognitive
 - a. Positive concepts about health, healthy bodies
 - b. Perceived negative consequences of the disease on the self and family
 - c. Accurate knowledge about etiology and management of cervical cancer
 - d. Accurate knowledge about the nature of the medical procedure

- 2) Attitudes
 - a. Positive concerns about one's own health, life, and future
 - b. Positive concerns about family
 - c. Negative repercussions of disease on self, family and financial status
 - d. Increased perceived risks of having the disease
 - e. Controlled feelings of anxiety over the disease and related procedures
 - f. Spiritually, having peace of mind and emotional control
 - g. Favorable attitudes toward health care in general
 - h. Concomitant and initiative of health providers in their tasks at hand

- 3) Environmental
 - a. Financial capabilities to seek and maintain treatment
 - b. Allotment of time for consultation
 - c. Social influences of family, peer groups, mass media, and significant persons in the community
 - d. Effective government health campaign
 - e. Health center-related variables such as availability of services and suitable scheduling of services, and availability of treatment of infections and cancers
 - f. Positive health worker-patient relationships including adequate medical advice and counseling, and
 - g. Positive family-patient relationships.

These recommendations from the above-mentioned local studies on cervical cancer screening have been given to the DOH for a continued improvement of the cervix cancer screening for the Philippines.

References

1. Ramiro LS, Ngelangel CA, Amarillo ML, Streiner D. The UP-DOH QOL scale measures of quality of life of Filipino cancer patients. *Phil J Int Med* 35: 179-188, 1997.
2. Ngelangel C, Munoz N, Bosch FX, Limson GM, et al. Causes of cervical cancer in the Philippines: a case-control study. *JNCI* 90 (1), 43-49, 1998.
3. Symonds RP. Screening for cervical cancer: different problems in developing and developed world. *Eur J Cancer Care* 6, 275-279, 1997.
4. Denny L et al. Two-stage cervical cancer screening: an alternative for resource-poor settings. *Am J Obstet Gynecol* 183, 383-388, 2000.
5. Singh V, Sehgal A, Luthra UK. Screening for cervical cancer by direct inspection. *Br Med J* 304, 534-535, 1992.
6. Ngelangel CA, Limson GM, Cordero CP, et al. Acetic-acid guided visual inspection vs cytology-based screening for cervical cancer in the Philippines. *Int J Gynecol Obstet* 83, 141-150, 2003.
7. Ramiro LS, Ngelangel CA, Cordero CP, Javelosa MU, et al. Knowledge, attitudes and practices of Filipino women on cervical cancer and its screening. *J Phil Med Asso*, 2003.
8. Ramiro LS, Ngelangel CA. Improving acceptance of Pap smear as a screening tool for cervical cancer. *Phil J Int Med* 37, 28-240, 1999.

14

Research Issues on the Improvement of the Quality of Life of Filipino Older Persons

Shelley de la Vega, MD, MSc

Background and Rationale

The total number of senior citizens (60 years and older) based on the 2000 Census of Population and Housing was 4.6 million, accounting for 5.97% of the 2000 Philippine population (Table 1). In terms of the average annual population growth rate, the elderly population grew at 4.39% during the 1995 to 2000 period, higher when compared to the 1990 to 1995 growth rate of 3.06%. If the growth rate continues at 4.39%, the number of senior citizens is expected to reach seven million in 2010 and to double in approximately 16 years.

The largest percentage of senior citizens was found in Southern Tagalog (Region IV) with a 14.2% contribution to the total while the lowest percentage was registered in the Autonomous Region in Muslim Mindanao (ARMM) with 1.68% (Table 2). A number of senior citizens were also found in Central Luzon (10.56%), Western Visayas (10.38%), and National Capital Region (NCR) with (10.27%). Of the 4.6 million senior citizens, about 54.11% (2.5 million) were females while the rest were males (Table 3). Senior citizens had a median age of 68 years, same as that of 1990 and 1995. This means that half of the senior citizens were below 68 years old.

Table 1. Population Distribution of Senior Citizens by Region: Philippines, 2000

Region	Total Population	Number of Senior Citizens	Percent to Total Senior Citizens	Percent to Regional Population
PHILIPPINES	76,404,077	4,565,560	100.00	5.97
REGION I - Ilocos Region	4,200,478	337,7987	7.40	8.04
REGION II - Cagayan Valley	2,813,159	179,655	3.94	6.39
REGION III - Central Luzon	8,030,945	482,333	10.56	6.01
REGION IV - Southern Tagalog	11,793,655	648,495	14.20	5.50
REGION V - Bicol Region	4,686,669	313,531	6.87	6.69
REGION VI - Western Visayas	6,211,038	473,752	10.38	7.63
REGION VII - Central Visayas	5,706,953	409,791	8.98	7.18
REGION VIII - Eastern Visayas	3,610,355	270,447	5.92	7.49
REGION IX - Western Mindanao	3,091,208	157,324	3.45	5.09
REGION X - Northern Mindanao	2,747,585	155,273	3.40	5.65
REGION XI - Southern Mindanao	5,189,335	259,533	5.68	5.00
REGION XII - Central Mindanao	2,598,210	120,425	2.64	4.63
NCR (National Capital Region)	9,932,560	468,876	10.27	4.72
CAR (Cordillera Administrative Region)	1,365,412	86,741	1.90	6.35
ARMM (Autonomous Region in Muslim Mindanao)	2,412,159	76,590	1.68	3.18
Caraga	2,095,367	124,283	2.72	5.93

Source: NSO, 2000 Census of Population & Housing

Three in five senior citizens reached at most elementary and 15.69 percent at most high school. About 4.85% were college undergraduates and only 5% were able to finish a degree. Those who had not completed any grade made up of 10.15%, of which more than half (59.48%) were females. Among senior citizens, 81.01% were able to read and write a simple message. Literacy rate for males (82.23%) was higher than that of the females (79.97%). At the regional level, the highest percentage of literate senior citizens was observed in NCR (96.17%).

Table 2. Number of Gainful Senior Citizens by Region: Philippines, 2000

Region	Total Senior Citizens (Household Population)	Number of Senior Citizens	Percent to Total Number of Gainful Senior Citizens	Percent to Total Senior Citizens
PHILIPPINES	4,557,848	2,600,990	100.00	57.07
REGION I - Ilocos Region	337,562	166,591	6.40	49.35
REGION II - Cagayan Valley	179,515	89,969	3.48	50.12
REGION III - Central Luzon	481,918	232,976	8.96	48.34
REGION IV - Southern Tagalog	647,801	382,805	14.72	59.09
REGION V - Bicol Region	313,220	176,314	6.78	56.29
REGION VI - Western Visayas	473,156	239,328	9.20	50.58
REGION VII - Central Visayas	406,236	238,086	9.15	58.18
REGION VIII - Eastern Visayas	270,167	161,224	6.20	59.68
REGION IX - Western Mindanao	157,144	106,706	4.10	67.90
REGION X - Northern Mindanao	155,155	100,933	3.88	65.05
REGION XI - Southern Mindanao	259,111	167,780	6.45	64.75
REGION XII - Central Mindanao	120,290	71,715	2.76	59.62
NCR (National Capital Region)	465,514	271,834	10.45	58.39
CAAR (Cordillera Administrative Region)	86,603	57,680	2.22	66.60
ARMM (Autonomous Region in Muslim Mindanao)	76,561	63,486	2.44	82.92
Caraga	124,181	73,026	2.81	58.81

Source: NSO, 2000 Census of Population & Housing

Table 3. Sex of household head in the Philippines.

Household Size	Sex of Household Head		
	Both Sexes	Male	Female
Total	2,616,721	1,819,938	796,783
1	245,415	87,020	158,395
2	492,600	319,729	172,871
3	441,952	309,893	132,059
4	381,657	280,874	100,783
5	312,753	236,524	76,229
6	248,472	192,481	55,991
7	182,477	143,683	38,794
8+	311,395	249,734	61,661

Source: NSO, 2000 Census of Population & Housing

The number of households with at least one member aged 60 years and over was 3.3 million (21.84% of the total households in the country). The largest percentage of households with at least one senior citizen was found in Southern Tagalog with a 14.48% contribution to the total number of households with senior citizens while the lowest was registered in Autonomous Region in Muslim Mindanao with 1.70%. A number of households with senior citizens were also found in Central Luzon (10.63%), NCR (10.35%), and Western Visayas (10.22%).

A community-based study conducted in 2000 (BSNOH, 2000) revealed the following characteristics of Filipino older persons. Of the 2,690 elderly respondents, 60% were young-old age (60-69 years), 32% were middle-old age (between 70-79 years) and a little more than 8% belonged to the oldest-old (>80 years). Almost half were widowed at the time of the survey. Only 4.4% of the 2,690 older persons had pensions.

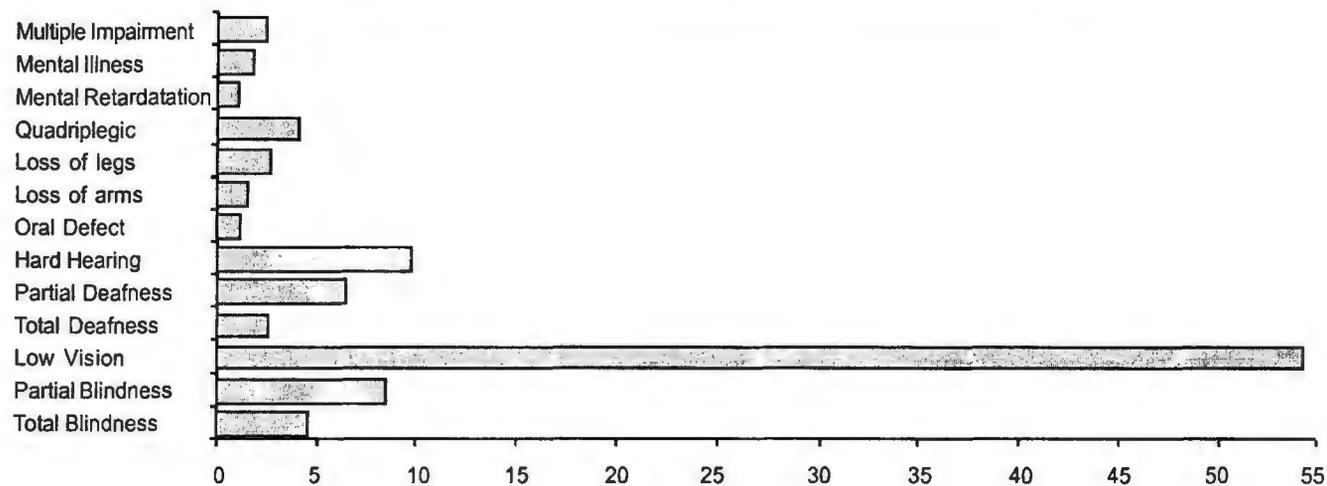
In terms of health seeking, about 48% consulted government health centers and hospitals while almost the same proportion (44%) went to private doctors. The most common health complaints were body aches/pains (44%) and colds, coughs and fever (43%). Eighteen percent of women reported heart disease (vs. 14.8 percent in men), kidney disease (13% vs. 11% in men), asthma (13% vs. 18.8% in men), diabetes (10% each for both women and men), stroke (7% vs. 17.5% in men) and osteoporosis (4% and same with men). There were no statistical differences in the prevalence of common degenerative diseases across the age sub-groups (young, middle, and oldest-old).

A total of 942 thousand (1.23%) of the 76 million population in the Philippines had disabilities. Of this number, 329 thousand were senior citizens and they accounted for 34.93% of the total persons with disabilities (PWDs). Moreover, of the total number of senior citizens, 7.21% had some forms of disability.

Senior males with disability constituted 31.31% of the total males with disability while senior females constituted 38.52% of the total females with disability.

Low vision was the common disability among senior citizens (54.11%) (Fig. 1). Others suffered from difficulty of hearing (9.7%), partial blindness (8.43%), partial deafness (6.43%), and total blindness (4.52%).

Fig. 1. Percent Distribution of senior Citizens with Disability by Type of Disability, Philippines. 2000



Source: NSO, 2000 Census of Population & Housing

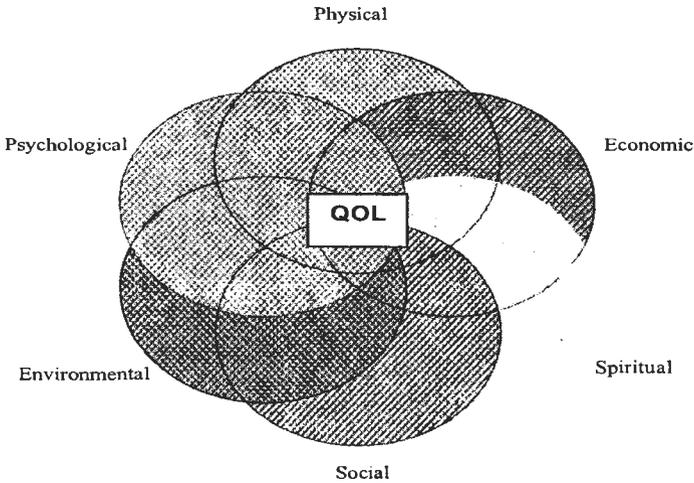


Fig. 2. Conceptual Framework of Quality of Life for Filipino Older Persons

With the advancement of science and technology and its consequent effects on health and life expectancy, health status can no longer be assessed purely in terms of mortality and morbidity statistics. People's perception of health and its relationship to their well-being or quality of life (QOL) become increasingly important. World Health Organization (WHO) defines "quality of life" as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, personal beliefs, social relationships and their relationship to salient features of their environment (Fig. 2) (WHOQOL Group 1994).

Quality of Life of Filipino Older Persons

Improving QOL of Filipino older persons has to start with an understanding of what they mean by QOL. In the Philippine Elderly Study (UP Pop Inst 1996), most of those who felt that they had a poor health status were: women, rural residents, widowed/separated and those with low educational attainment. In the BSNOH survey, using the question "*Gaano kayo kakontento sa buhay niyo?*" Seventy five % of the respondents 60 yr and older responded positively. Respondents 85 yr and above had an 83% positive response rate (BSNOH 2000). An earlier study of retirees in Lipa, Batangas showed that those living in this rural town felt they were

better off than retirees in Manila. They were most concerned about their capacity to earn a living and the lack of leisure activities upon retirement (Malabanan 1975).

The WHOQOL -100 is a generic measure of QOL that would be broadly applicable across diseases and cultures. The WHOQOL-BREF, an abbreviated 26-item version of the WHOQOL-100, was developed using data from the field-trial version. It exists in various translations. A 26-item short version was developed (WHOQOL-BREF, Hindi) and was deemed suitable for intervention studies including drug trials (Saxena 1998). In Thailand, an expert panel was used to review the content and suitability of the language in the WHOQOL-BREF. Also, comprehensibility testing with people from different backgrounds was done. The final version of the WHOQOL-BREF was then tested against the WHOQOL-100. The WHOQOL-BREF THAI version was concluded to be a shorter and more convenient to use in the community (Mahatnirunkul 1998).

The WHOQOL-BREF was recently validated for Filipino Older persons. (de la Vega, S, WHOQOL-BREF FIL OP, 2005) Subjects in this study included 120 ambulatory, community-dwelling persons aged 60 years and older, from 4 communities of the National Capital Region of the Philippines. The Objectives were: 1) To translate, statistically validate, and culturally adapt the WHOQOL-BREF for Filipino older persons and to determine its psychometric properties. 2) To describe the quality of life of Filipino older persons in the National Capital Region. It used a cross-sectional survey design, with a three-step protocol including translation, cultural adaptation, and cross-sectional validation of the WHOQOL- BREF instrument. The WHOQOL-BREF was translated to Filipino. Trained interviewers using face-to-face methods did collection of relevant data using the WHOQOL-BREF. The translated and culturally adapted WHOQOL-BREF for Filipino older persons (WHOQOL-BREF FIL OP) was found to be internally consistent, with an overall alpha coefficient of 0.88, and domain values of >0.70 . It had a very good concurrent validity, with domain scores correlating at 0.001 significance levels with general questions on quality of life, physical health and well-being. Factor analysis yielded four principal components or domains named as physical, psychological, social and environmental domains. Socio-economic and work status were independent determinants of QOL. Of the 120 respondents, 119 rated their quality of life as moderate to good. The physical health domain had the highest rating and environmental domain scored the lowest. They were least satisfied with their finances and access to health care. Filipino older persons understand the concept of

“*kalidad ng buhay*”. The concept of “*ganda ng buhay*” also correlated well with “*kalidad ng buhay*” in this study, and may lend strength to the QOL tool if taken together. Filipino older persons understand the concept of quality of life and its Tagalog translation *kalidad ng buhay*. However, the Filipino older person has a domain structure and conceptual framework of quality of life that is different from adults in other countries (Fig. 2). These differences are adequately explained by the Filipino culture and existing psychosocial and developmental theories.

Spirituality as a “separate” domain from psychological health highlights the transcendent quality in the Filipino older person’s philosophy towards health, relationships, and his/her relationship to the environment. Spirituality best defines the older Filipino’s position in life and puts everything, including his/her goals into its proper context. The economic domain affects and determines success in other domains. However, the fluid interactions of the various domains provide more meaning to the concept of QOL among Filipino older persons. This is represented in the figure by the overlapping circles converging in the central core where quality of life resides (Fig. 2).

How the older Filipino comprehends, assimilates, adapts and survives the many challenges of aging is not yet fully understood, and is thus not represented in this figure.

This study showed that the key to improving quality of life for Filipino older persons is to enable them to be able to better care for their families and communities through improvement of their financial status, the item that scored consistently the lowest in this survey. A similar trend was found in a study in Bulgaria, where groups showed the lowest scores in Financial Resources, Physical Safety and Security and Physical Environment. The authors presumed that this results from the economic crisis that affected basic human necessities of all studied groups (Butorin 1997).

Poverty is defined as a deprivation of essential assets that include but go beyond income. Alleviation of poverty therefore includes improvement of access to various assets. The five essential assets are human capital, physical capital, natural capital, financial capital, and social capital. Access poverty is a major problem in the Philippines (ADB report 2005). Improving the quality of life of older persons through increased employment opportunities beyond retirement age (financial capital), as emphasized in the recently passed RA 9257 (Expanded Senior Citizens Act 2003), allows for older persons’ participation in nation-building and development. Improvement of health care access and provisions for a greater

national health insurance system improves the human capital. Social capital comprises the social resources on which people are able to draw, through networks and connectedness and relationships of trust and reciprocity. It is the foundation of informal safety nets among the poor. (ADB 2005) Encouraging participation of older persons in family, community and national organizations such as senior citizen clubs, help improve the social capital among the poor older population. We also need to recognize that older persons are a rich, underutilized resource of human, financial and social capital.

Layard says, “As social beings, we want to trust each other. Policies that encourage trust are thus extremely important. These include policies that build stability in families, communities and workplaces. People are also deeply attached to the status quo. They care less about gains than about losses. Public policy can more easily remove misery than augment happiness. It is also morally right to give extra weight to removing misery. Wealthy countries are encouraged to relieve misery in the Third World by helping relieve world hunger. Finally, there should be focus on moral education and teaching the systematic practice of empathy, to have a meaningful life” (Layard 2005).

Pension, health insurance, and improved access to health care for older persons are also essential to this population. The Committee on Aging and Degenerative Diseases of the National Institutes of Health is committed to the vision that closely approximates the definition of quality of life.

Vision

The Filipino elderly enjoying a healthy body, mind and spirit, being treated with dignity, and valued as a productive member of society, in a dynamic process unique to himself, and beginning a life of unlimited possibilities.

Mission

The institute shall create with the aging Filipino, unlimited possibilities for their value added life through scientific research, training and education, and specialized services

We in the Committee on Aging, in collaboration with the NAST, DOST and Filipino older persons, will work together in understanding and improving the quality of life of the aging populace.

Recommended Research in Health and Technology for the Improvement of QOL of Filipino Older Persons

The members of the Committee on Aging and Degenerative Diseases of the NIH would like to recommend the following Key Areas of Research and Development. Longitudinal, multi-disciplinary, and evidence-based research is recommended.

Health

1. Prevalence and longitudinal studies on morbidity and mortality, functional status and disability. With specific emphasis on major geriatric syndromes such as:
 - Malnutrition
 - Dementia and delirium
 - Depression and anxiety
 - Falls
 - Incontinence
 - Polypharmacy
 - Pneumonia and tuberculosis
 - Multiple medical problems (Diabetes, Cardiovascular disease, Cancer)
 - Frailty
 - Osteoporosis
2. Health care delivery systems (type, location, funding, etc)
3. Rates and reasons for institutionalization
4. Utilization and access to primary, secondary and tertiary prevention, screening and health maintenance
5. Socio-cultural influences on health and health-seeking behavior
6. Socio-cultural determinants of inequalities in health and quality of life
7. Health education and training needs per medical, allied medical and undergraduate discipline
8. Quality of care in public and private hospitals and clinics
9. Impact of RA 9257 and other national health policies on health and QOL
10. Human resources and support services
11. Interventions that improve morbidity, mortality and disability indexes
12. Cost of care; cost-effectiveness of interventions

Quality of Life Concept and Measures

1. National survey of QOL using the WHOQOL-BREF FIL OP questionnaire
2. Effect of health, socioeconomic and work status on QOL
3. Effect of major life events (e.g., bereavement, major health changes) on the prevalence of depression and anxiety
4. Change in QOL over time (from young-old to old-old)
5. Factors that predict good QOL: e.g., resilience, coping mechanisms, spirituality
6. Health interventions that improve QOL (e.g., vocational rehabilitation, relief of pain and illness)
7. Family and community support systems that enable improvement of QOL

Demographics

1. Standard and alternative elderly support ratios
2. Projections on Active Life Expectancy
3. Standard socio-economic and cultural demographics

Income and Pension

1. Retirement, work and employment rates
2. Labor force participation rates
3. Retirement practices and incentives
4. Pension rates and indexes: both public and private
5. Disability and Welfare Programs
6. Implications of health on retirement and pension schemes
7. Impact of RA 9257 on health care expenditure

Private Wealth and Income Security

1. Patterns of wealth accumulation and savings
2. Effect of pension schemes (private and public) on individual, household and national wealth and savings
3. Patterns of consumption after retirement
4. Effect of health needs on wealth and savings
5. Inequalities in wealth
6. Effect of elderly health on household wealth and savings

Technology and Health

1. Implications of genomic and stem-cell research
2. Technology for improved access and environmental mastery of disabled and frail older persons.
3. Ecological, architectural, and infrastructure support for a "Society for All Ages"
4. Evidence-based cost-effective pharmacologic advances

References

1. Asian Development Bank "Poverty in the Philippines: Income, Assets, and Access" Feb 2005.
2. Baseline Surveys for the National Objectives of Health. National Institutes of Health Manila and Department of Health Philippines. Published 2000.
3. Butorin, N., Mihailova, J. & Petkov, V. Preliminary pilot study data from the cultural adaptation of WHOQOL-100. *Report at the Annual Conference of the Bulgarian Psychiatric Association*, September 26-28, 1997, Sofia.
4. Domingo L, Medina B, and Domingo M. *The Filipino Elderly*. Univ of the Philippines Press and UP-CIDS, Diliman QC, 1994.
5. George L and Bearon L. *Quality of Life in Older Persons: Meaning and Measurement*. Human Sciences Press, Inc., NY 1980.
5. Guillemin F, Bombardier C, and Beaton D, *J Clin Epidemiol* Vol 46, no. 12, 1993.
6. Hasanah, CI, Naing L and Rahman A. World Health Organization Quality of Life Assessment: Brief Version in Bahasa Malaysia. *Med J Malaysia* Vol 58 No. 1, Mar 2003: 79-90.
7. Jocano FL. ASAL the expressive core of the Filipino value system. In Jocano FL. *Anthropology of the Filipino people IV. The Filipino value system – a cultural definition*, Quezon City Philippines: Punlad Research House, Inc 1997.
8. Layard (Happiness, Book Excerpt from *Time*, Feb 28, 2005).

About NAST

The National Academy of Science and Technology (NAST) Philippines is the country's highest advisory body to the government and the science community on matters related to science and technology. It also has the mandate to recognize outstanding achievements in science and technology made by Filipino scientist in all fields of science.

Vision, Mission and Mandate

The National Academy of Science and Technology Philippines, founded in 1976, continues to stand today with a firm resolve to faithfully pursue:

Its **VISION**: A PROGRESSIVE PHILIPPINES ANCHORED ON SCIENCE

Its **MISSION**:

1. To recognize exemplary science and technology achievements among the young and among peers
2. To encourage individual Academy members to continue their scholarly pursuits thereby making the Academy the principal reservoir of scientific and technological expertise in the nation
3. To provide independent and science-based advice on problems facing the nation and the world
4. To link with like-minded institutions and individuals in promoting scientific achievement in the Philippines and abroad
5. To promote a strong science culture in Philippine society

Its **MANDATE**:

1. To recognize outstanding achievements in science and technology as well as provide meaningful incentives to those engaged in scientific and technological researches (PD 1003-A).
2. To advise the President and the Cabinet on matters related to science and technology (EO 818).
3. To engage in projects and programs designed to recognize outstanding achievements in science and promote scientific productivity (EO 818).
4. To embark on programs traditionally expected of an academy of science (EO 818).

The National Academy of Science and Technology Philippines
2F Philippine Heritage Science Center
Department of Science and Technology Complex,
Bicutan, Taguig, Metro Manila 1631, Philippines
Email: secretariat@nast.ph , nast@dost.gov.ph
Url: <http://www.nast.dost.gov.ph>, <http://www.nast.ph>

