

## SELF-EFFICACY IN MANAGING PERSONAL CHRONIC HEALTH CONDITIONS AMONG OLDER PEOPLE IN SELECTED COMMUNITIES OF CAVITE, PHILIPPINES

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### **Abstract:**

This study sought to explore the common chronic conditions affecting older people in selected communities of Cavite and the extent of their self-efficacy in managing those conditions. Utilizing the cross-sectional, descriptive design of quantitative research, the researcher recruited 255 participants, who were chosen using the judgmental sampling approach. The Stanford Patient Education Research Center tool, which was divided into 8 subsections about self-management capabilities including regular exercise, obtaining help from others, communicating with physician, managing disease in general, doing chores, social and recreational activities, managing symptoms, and controlling depression, was used for data gathering. Among several chronic conditions; hypertension, eye conditions, heart problems, bone and joint conditions, and diabetes; emerged as the most common. Regarding self-efficacy, older people are moderately confident that they can do regular exercise ( $x=3.18$ ,  $S=1.43$ ); highly confident that they can obtain help from others when they need it ( $x=3.57$ ,  $S=.84$ ); highly confident that they can communicate to others about their condition ( $x=3.71$ ,  $S=.98$ ); highly confident that they can manage their disease or condition in general ( $x=3.56$ ,  $S=.91$ ); moderately confident they can do their chores ( $x=3.38$ ,  $S=1.10$ ); moderately confident about their social or recreational activities ( $x=3.38$ ,  $S=1.12$ ); moderately confident they can manage the symptoms of their conditions ( $x=3.29$ ,  $S=.95$ ); and highly confident about controlling depression to happen ( $x=3.46$ ,  $S=.92$ ). The study also shows female older people have higher incidence of diabetes and blood conditions than men. Moreover, age was found to influence self-efficacy, particularly on areas such as, regular exercise ( $F=4.251$ ,  $p=.006$ ), doing chores ( $F=4.601$ ,  $p=.004$ ), involving in social/recreational activities ( $F=3.63$ ,  $p=.014$ ), and management of symptoms ( $F=3.673$ ,  $p=.013$ ).

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particularly between those aging 60 and below and 70 and above. It is therefore recommended that a community-based health education and counselling programs can be started by local authorities and even NGOs to improve self-efficacy of older people in managing their own chronic conditions particularly on areas like regular exercise, social or recreational activities, and managing symptoms of their chronic conditions.

**Key Words:** self-efficacy; chronic conditions; older people; aging; self-management.

### Introduction

More profound than the issue of semantics and acceptability of the term, older people than the word--elderly, is the issue of definition, in which according to the World Health Organization (WHO), is influenced by culture and geography. WHO posited that although there are commonly used definitions of old age, there is no general agreement on the age at which a person becomes old. The common use of a calendar age to mark the threshold of old age assumes equivalence with biological age, yet at the same time, it is generally accepted that these two are not necessarily synonymous. At the moment, there is no United Nations standard numerical criterion, but the UN agreed cutoff is 60+ years to refer to the older population.

Gorman (2000), as cited by the WHO, explained that the ageing process is a biological reality which has its own dynamic, largely beyond human control. However, it is also subject to the constructions by which each society makes sense of old age. In the developed world, chronological time plays a paramount role. The age of 60 or 65, roughly equivalent to retirement ages in most developed countries is said to be the beginning of old age. In many parts of the developing world, chronological time has little or no importance in the meaning of old age. Other socially constructed meanings of age are more significant such as the roles assigned to older people; in some cases it is the loss of roles accompanying physical decline which is significant in defining old age. Thus, in contrast to the chronological milestones which mark life stages in the developed world, old age in many developing countries is seen to begin at the point when active contribution is no longer possible.

Self-Management: A New Paradigm of Health Care

There has been a growing interest in developed countries in redesigning health care organizations, focusing on practices to improve the quality of care and guarantee an equitable, timely and effective management of chronic diseases (Epping-Jordan, Pruitt, Bengoa, & Wagner, 2004). There may be several reasons for this paradigm. Olmen, Ku, Bermejo, Kegels, Hermann, and van Damme (2011) maintained a stance that the growing caseload caused by patients with chronic life-long conditions leads to increased needs for health care providers and rising costs of health services, resulting in heavy burden of health systems, populations and individuals. The professionalized health care for chronic patients common in high income countries is very labor-intensive and expensive. Moreover, the outcomes are often poor. In low-income countries, the scarce resources and the lack of quality and continuity of health care result in high health care expenditure and very poor health outcomes. The current proposals to improve care for chronic patients in low-income countries are still very much provider-centered.

Making the situation worse, worldwide, is the fact that chronic diseases have overtaken infectious diseases as the leading cause of death and disability. This means that their management represents an important challenge for health systems (Buja, et al, 2014). The rising prevalence of chronic diseases all over the world is a growing cause of concern in the public health sector. Non-communicable diseases now account for 63% of the world's annual deaths, and approximately half of the global burden of disease (World development indicators. Washington, DC, International Bank for Reconstruction and Development, 2009).

With this backdrop, efforts have been made to prevent chronic conditions or even to reduce them. In developed countries, health care organizations have been redesigned to address this pressing need (Lukas, Holmes, Cohen, Restuccia, Cramer, et al., 2007). According to the Center for Disease Control and Prevention (CDC, 2014), chronic diseases such as heart disease, stroke, cancer, diabetes, obesity, and arthritis—are among the most common, costly, and preventable of all health problems. As of 2012, about half of all adults—117 million people—have one or more chronic conditions. One of four adults has two or more chronic health conditions (Ward, Schiller, Goodman, 2014). Seven of the top 10 causes of death in 2010 were chronic diseases. Two of these chronic diseases—heart disease and cancer—together accounted for nearly 48% of all deaths (CDC, 2014).

This concern is not only exclusive for developed countries because similar concerns, if not more intense, are also experienced in developing and underdeveloped countries like the

Philippines. A study reported that the burden of chronic diseases, such as heart disease, cancer, diabetes, and mental disorders is high in low-income and middle-income countries and is predicted to increase with the *aging of populations*, urbanization, and globalization of risk factors (Beaglehole, Epping-Jordan, Patel, Chopra, Ebrahim, Kidd, & Haines, 2008). This concern of chronic health conditions is pervasive that each country should prepare and respond steadfastly, as increasing prevalence of chronic diseases will be a major challenge for the health care system of any country (Wu, Guo, Kowal, Jiang, Yu, Li, Zheng and Xu, 2013).

Wu, et al. (2013) revealed through their study that 50% of the older people of China reported to have one chronic condition, 18.9% with two conditions, 5.8% with three conditions, and 1.4% with four or more conditions. In the same study, hypertension has the highest prevalence of 27%, which is followed closely by arthritis (22%). Completing the top five are angina (8%), diabetes (8%), and chronic lung disease (7%). Similar scenario can also be observed in the Philippines, in which chronic diseases are the major causes of death among Filipinos across the lifespan ([www.doh.gov.ph/content](http://www.doh.gov.ph/content)).

#### Self-Management of Chronic Conditions

With the economic implications of this global concern, several cost-effective ways and means have been formulated and proposed. One of these is self-management. How cost-effective is self-management is the focus of several studies and in those studies, it has been implied to be effective. Lorig, Mazonson, and Holman (1993) found out that in patients with arthritis and self-managing their condition, pain had declined a mean of 20% and visits to physicians 40%, while physical disability had increased 9%. This is corroborated by a study of Lorig, Sobel, Stewart, Brown, Bandura, Ritter, Gonzalez, Laurent and Holman (1999), in which, it was concluded that the self-management program the researchers utilized was feasible and beneficial beyond usual care in terms of improved health behaviours and health status. It also resulted in fewer hospitalizations and days of hospitalization.

#### Perceived Self-Efficacy

Older people with chronic conditions make day-to-day decisions about self-managing their illnesses. A very important concept that is centred on self-management is self-efficacy, which is the confidence to carry out a behaviour necessary to reach a desired goal. Self-efficacy can be perceived, as Bandura (1997, 2006, 2010) explained it, to be concerned with people's

beliefs in their ability to influence events that affect their lives. He maintained that this core belief is the foundation of human motivation, performance accomplishments, and emotional well-being. Unless people believe they can produce desired effects by their actions, they have little incentive to undertake or to persevere in the face of difficulties. Self-efficacy is enhanced when patients succeed in solving patient-identified problems. Evidence from controlled clinical trials suggests that (1) programs teaching self-management skills are more effective than information-only patient education in improving clinical outcomes; (2) in some circumstances, self-management education improves outcomes and can reduce costs for arthritis and probably for adult asthma patients; and (3) in initial studies, a self-management education program bringing together patients with a variety of chronic conditions may improve outcomes and reduce costs (Bodenheimer, Lorig, Holman, & Grumbach, 2002).

Moreover, a study conducted to Filipino-Americans between ages 46 and 97 years old revealed about the concept of balance as central to Filipino-Americans' portrayal of bodily awareness of signs and symptoms related to chronic conditions, as well as to actions they took to manage their chronic conditions. In the study, the participants made efforts to control chronic conditions through a variety of self-care practices. It was concluded in the same study that the ways in which Filipino-Americans combine attention to the body, values of balance and harmony, and emphasis on social well-being result in heightened attention to bodily processes. Indeed, emphasis on bodily awareness suggests that this particular cultural strength can be used to enhance chronic illness management. Thus, awareness of the cultural traditions of Filipino-Americans can facilitate patient education about how to manage chronic conditions (Becker, 2003).

Review of related studies and literature generated some gaps that this research could address. First, studies in the United States and other developed countries talk about self-management of chronic diseases; however, those studies basically concentrated on adults in general which normally starts at the age of 40 and even until 90s. There is a minimal study or even nothing that focuses on self-efficacy of older people aging 60 years and above, with one or more chronic health conditions. Many studies concentrated on developed countries with progressive and state-of-the-art health facilities, like self-regulated insulin pumps or pain killer dispensers, and self-management can be more rewarding. There is a minimal study or even nothing in an underdeveloped or developing countries like the Philippines, whose health

professionals like the nurses are refutably very efficient and globally competitive; in which self-management may not be applied or even may not exist. This might be the case in the Philippines, but still, it can never be denied that the health care system has started to shift to a new paradigm because of various political and economic changes that the country has been experiencing. The challenge of globalization, as exemplified by the ASEAN integration in 2015, augurs changes in all areas of life. This includes the health care delivery system.

## Methodology

This study utilized the cross-sectional, descriptive design of quantitative research, in which 255 older people (60 years and above) were recruited to participate in the study using judgmental or criterion-based sampling technique. This was conducted in three neighboring cities/municipalities of Cavite, Philippines; namely, Bacoor, Imus, and Dasmariñas.

The Stanford Patient Education Research Center tool; which was divided into 8 subsections about self-management capabilities that include regular exercise, obtaining help from others, communicating with physician, managing disease in general, doing chores, social and recreational activities, managing symptoms, and controlling depression; was used for data gathering. However, supplemental questionnaire was also used to obtain the demographic profile and assess the common chronic health conditions of the participants.

## Results and Discussion

### On Demographic Profile

Age and gender are important variables to consider in assessing common chronic health conditions of older persons and determining how they deal with those conditions. Table 1 summarizes these two variables.

**Table 1:** Summary of the Demographic Profiles of Participants

Demographs	Frequency	Percentage (%)
<b>GENDER</b>		
Male	107	41.96
Female	148	58.04
<b>AGE</b>		
60 years	55	21.15
61-65 years	88	33.85
66-70 years	42	16.15
Above 70 years	75	28.85

It can be gleaned in Table 1 that more female participated in the study (148 or 58.04%) than male (107 or 41.96%). The participants were all older people but majority of those who participated belong to the age bracket 61-65 years old (88 or 33.85%) but surprisingly it was followed by the bracket above 70 years which has 75 participants or 28.85% of the total sample recruited.

#### On Common Chronic Conditions

Aging process inevitably produces physiological changes to older people, whether they are healthy or not. This puts older people at higher risk of developing pathologic chronic diseases. This makes aging more difficult because of the concerted effects of physiologic and pathologic changes. Table 2 presents the most common conditions of the participants.

**Table 2:** Most Common Conditions Affecting Older People of Cavite

Conditions	Frequency	Percentage
Hypertension	100	38.76%
Eyes	87	33.72%
Heart	78	30.23%
Skeletal	60	23.26%
Diabetes	52	20.16%
Hematological	34	13.18%
Ears, Nose, Throat	24	9.3%
Vascular	20	7.78%
Pulmonary	16	6.20%
Renal	12	4.65%
Nervous System	9	3.49%
Cancer	8	3.35%
Gastrointestinal	8	3.35%
Hepatic	3	1.16%
Muscular	3	1.16%
Biliary	2	0.84%
Others	1	0.42%

Of the total sample, there are 100 individuals or 38.76% who have hypertension. This is followed by eye conditions (87/33.72%), heart conditions (78/30.23%), bone and joints conditions (60/23.26%, and diabetes (52/20.16%). In the study of Wu, et al (2013) hypertension, arthritis, diabetes, and heart problems were mentioned as the leading chronic diseases in China. The CDC also reflects similar listing of chronic conditions, although their studies include younger adults in the late forties and fifties.

#### On the Duration of Chronic Conditions

**Table 3:** Duration of Chronic Conditions of Older People of Cavite

Number of Years	Frequency	Percentage (%)
Less Than One (1) year	27	10.76
One (1) to Three (3) years	94	37.45
Four (4) to Six (6) years	52	20.72
Seven (7) Years and above	72	28.69
Total	251	100

Table 3 demonstrates that majority of the participants of this study have been suffering those conditions mentioned in Table 2 from one to three years (94 or 37.45%). Some said they have these conditions for seven years and above (72 or 28.69%), or four to six years (52/20.72%).

#### On the Extent of Self-Efficacy on Regular Exercise

**Table 4:** Extent of Self-Efficacy on Regular Exercise

Indicators	Mean	S	Q.I.
1. How confident are you that you can do gentle exercises for muscle strength and flexibility three to four times per week (range of motion, using weights, etc.)?	3.21	1.23	Moderately confident
2. How confident are you than you can do aerobic exercise such as walking, swimming, or bicycling three to four times each week?	3.13	1.19	Moderately confident
3. How confident are you that you can exercise without making symptoms worse?	3.24	1.22	Moderately confident
Average	3.18	1.43	Moderately confident

Rating self-efficacy according to regular exercise, Table 4 shows that from Likert scale of 1-5, the participants are *moderately confident* that they still can do regular exercises ( $X=3.18$ ,  $S=1.43$ ). This means they are moderately confident that they can exercise without making the symptoms worse ( $X=3.24$ ,  $S=1.22$ ), they can do gentle exercise for muscle strength and flexibility three to four times per week ( $X=3.21$ ,  $S=1.23$ ), and even doing the aerobic exercises such as walking, swimming, or bicycling three to four times each week ( $X=3.13$ ,  $S=1.19$ ). Confidence in this aspect is a healthy sign for older people because promoting light intensity activity could have substantial public health benefits, such as reduction of blood pressure in older people (Young, Appel, Jee, & Miller, 1999). Further, group exercise maintains not only physical functioning in frail older people (Lord, et.al, 2003) but also neurobehavioral function, even in older people, who are more than 75 years of age (Colcombe and Kramer, 2003; Okumiya, Matsubayashi, Wada, Kimura, Doi, & Ozawa, 1996; Pedersen and Saltin, 2006; Smith, Blumental, Hoffman, Cooper, Strauman, Welsh-Bohmer, Browndyke, & Sherwood, 2010).



## On the Extent of Self-Efficacy in Obtaining Help

**Table 5:** Extent of Self-Efficacy in Obtaining Help

Indicators	Mean	S	Q.I.
1. How confident are you that you can get information about your disease from community resources?	3.26	1.20	Moderately confident
2. How confident are you that you can get family and friends to help you with the things you need (such as household chores like shopping, cooking, or transport)?	3.70	1.05	Highly confident
3. How confident are you that you can get emotional support from friends and family (such as listening or talking over your problems)?	3.70	1.01	Highly confident
4. How confident are you that you can get emotional support from resources other than friends or family, if needed?	3.39	1.14	Moderately confident
5. How confident are you that you can get help with your daily tasks (such as housecleaning, yard work, meals, or personal hygiene) from resources other than friends or family, if needed?	3.48	1.12	Highly confident
Average	3.57	.84	Highly confident

Table 5 exhibits that when it comes to obtaining help, the participants are *highly confident* ( $X=3.57$ ,  $S=0.84$ ). This help might be in the form of the things they need (i.e. household chores) coming from their family and friends ( $X=3.70$ ,  $S=1.05$ ); emotional support from family and friends ( $X=3.70$ ,  $S=1.01$ ); and daily tasks ( $X=3.48$ ,  $S=1.12$ ). Studies have shown that the immediate family of older people is the major social support in time of illness and the extended family, children, siblings, and other relatives, is the major tie of the elderly to the community (Bucholz, et.al., 2014; Shanas, 1979; Walz & Mitchell, 2007).

## On the Extent of Self-Efficacy in Communicating with the Physician

**Table 6:** Extent of Self-Efficacy in Communicating with the Physician

Indicators	Mean	S	Q.I.
1. How confident are you that you can ask your doctor things about you're your illness that concerns you?	3.69	1.11	Highly confident
2. How confident are you that you can discuss openly with your doctor any personal problems that may be related to your illness?	3.70	1.04	Highly confident
3. How confident are you that you can get work out differences with your doctor when they arise?	3.58	1.12	Highly confident
Average	3.71	.98	Highly confident

The study further shows, as reflected by Table 6, that older people are *highly confident* when it comes to communicating with the physician what their conditions are ( $x=3.71$ ,  $S=.98$ ).

This further means that they can discuss openly with their doctors any problems that may be related to their illness ( $x=3.70$ ,  $S=1.04$ ) and ask many personal problems related to their illness ( $x=3.58$ ,  $S=1.12$ ). With this level of confidence, older people may survive the new paradigm by having primary physicians they can contact, every time they need them. Economically, having a primary physician and greater continuity of care through other health professionals like nurses doing primary care work are factors associated with decreased emergency department use by older people, particularly those living in urban areas (Ionescu, McCusker, Ciampi, Vadeboncoeur, Roberge, Larouche, Verdon, & Pineault, 2007).

On the Extent of Self-Efficacy in Communicating in Managing Disease in General

**Table 7:** Extent of Self-Efficacy in Managing Disease in General

Indicators	Mean	S	Q.I.
1. Having illness often means doing different tasks and activities to manage your condition. How confident are you that you can do all the things necessary to manage your condition on a regular basis?	3.58	1.06	Highly confident
2. How confident are you that you can judge when the changes in your illness mean you should visit a doctor?	3.55	1.06	Highly confident
3. How confident are you that you can do the different tasks and activities needed to manage your health condition so as to reduce your need to see a doctor?	3.52	1.08	Highly confident
4. How confident are you that you can reduce the emotional distress caused by your health conditions so that it does not affect your everyday life?	3.62	1.00	Highly confident
5. How confident are you that you can do things other than just taking medication to reduce how much your illness affects your everyday life?	3.53	1.17	Highly confident
Average	3.56	.91	Highly confident

Table 7 demonstrates how *highly confident* the older people are in managing their conditions ( $x=3.56$ ,  $S=.91$ ). Specifically, according to the results of the study, they are confident that they can reduce the emotional distress as caused by their illness, judge when changes in their illness mean they should visit a doctor, do different tasks and activities needed to manage their health conditions so as to reduce the need to see a doctor and do things other than just taking medication to reduce how much their illness affect their everyday life.

On the Extent of Self-Efficacy in Doing Chores

**Table 8:** Extent of Self-Efficacy in Doing Chores

Indicators	Mean	S	Q.I.
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1. How confident are you that you can complete your household chores, such as vacuuming and yard work, despite your health problems?	3.52	1.20	Highly confident
2. How confident are you that you can get your errands done despite your health problems?	3.36	1.25	Moderately confident
3. How confident are you that you can get your shopping done despite your health problems?	3.25	1.28	Moderately confident
Average	3.38	1.10	Moderately confident

Table 8 succinctly exhibits that older people are *moderately confident* that they still can do their household chores ( $x=3.38$ ,  $S=1.10$ ). This shows a drop from the previous indicators of their self-efficacy. However, the result is consistent with literatures which assert that age-related chronic diseases are important causes of disability in older people, although according to studies, cause of disability appears to be influenced by gender, health status, and type of disease (Ettinger, et al., 1994).

On the Extent of Self-Efficacy with Social/Recreational Activities

**Table 9:** Extent of Self-Efficacy with Social/ Recreational Activities

Indicators	Mean	S.D.	Q.I.
1. How confident are you that you can continue to do your hobbies and recreation?	3.39	1.18	Moderately confident
2. How confident are you that you can continue to do the things you like to do with friends and family (such as social visits and recreation)?	3.36	1.14	Moderately confident
Average	3.38	1.12	Moderately confident

Similar condition can be found in Table 9 when it comes to social/recreational activities, in which it is shown that older people are moderately confident about their social/recreational activities ( $x=3.38$ ,  $S=1.12$ ). Naturally, because of diminished physical activity, social activities are also diminished. Although they are still confident about having social activities, still they need to have higher confidence, as studies have demonstrated that participation in some form of social activity decreased the risk of institutionalization. Participating in social activities and visiting or talking with friends or relatives was negatively related to the likelihood of mortality (Lewis, 2014; Minagawa & Saito, 2014; Steinbach, 1992).

On the Extent of Self-Efficacy in Managing Symptoms

**Table 10:** Extent of Self-Efficacy in Managing Symptoms

Indicators	Mean	S.D.	Q.I.
1. How confident are you that you can reduce your physical discomfort or pain?	3.30	1.08	Moderately confident

2. How confident are you that you can keep the fatigue caused by your disease from interfering with the things you want to do?	3.29	1.10	Moderately confident
3. How confident are you that you can keep the physical discomfort or pain of your disease from interfering with the things you want to do?	3.31	1.05	Moderately confident
4. How confident are you that you can keep any other symptoms or health problems you have from interfering with the things you want to do?	3.28	1.09	Moderately confident
5. How confident are you that you can control any symptoms or health problems you have so that they don't interfere with the things you want to do?	3.27	1.11	Moderately confident
Average	3.29	.95	Moderately confident

Table 10 also shows that older people are *moderately confident* of their self-efficacy towards managing the symptoms of their conditions ( $x=3.29, S=.95$ ).

#### On the Extent of Self-Efficacy in Controlling/Managing Depression

**Table 11:** Extent of Self-Efficacy in Controlling/ Managing Depression

Indicators	Mean	S.D.	Q.I.
1. How confident are you that you can keep from getting discouraged when nothing you do seems to make any difference?	3.40	1.07	Highly confident
2. How confident are you that you can keep from feeling sad or down in the dumps?	3.42	1.04	Highly confident
3. How confident are you that you can keep yourself from feeling lonely?	3.48	1.04	Highly confident
4. How confident are you that you can do something to make yourself feel better when you are feeling lonely, discouraged, sad or down in the dumps?	3.53	1.07	Highly confident
Average	3.46	.92	Highly confident

Table 11 presents the finding that older people are *highly confident* about their efficacy to control or manage depression naturally brought by chronic conditions they have ( $x=3.46, S=.92$ ). This implies that the older people have the confidence that they can keep themselves from getting discouraged when nothing they do seems to make any difference ( $x=3.40, S=1.07$ ); keep themselves from feeling sad or down in the dumps ( $x=3.42, S=1.04$ ); keep themselves from feeling lonely ( $x=3.48, S=1.04$ ); and do something to make themselves feel better when they are feeling lonely, discouraged, sad or down in the dumps ( $x=3.53, S=1.07$ ).

#### On Relationship between Common Chronic Conditions and Demographic Profiles

##### Gender

**Table 12.1:** Summary of Chronic Conditions According to Gender

Chronic Conditions	Male		Female	
	Without the Condition	With Condition	Without the Condition	With Condition
Hypertension	74	34	83	66
Eyes	73	35	97	52
Heart	73	35	107	43
Skeletal	85	23	113	37
Diabetes	95	13	111	39
Hematological	87	21	137	13
Ears, Nose, Throat	97	11	137	13
Vascular	96	12	141	8
Pulmonary	98	10	144	6
Renal	104	4	142	8
Nervous System	105	3	144	6
Cancer	106	2	144	6
Gastrointestinal	104	4	146	4
Hepatic	106	2	149	1
Muscular	108	0	147	3
Biliary	107	1	149	1
Others	92	1	128	0

Table 12.1 summarizes the chronic conditions and how they are distributed according to gender. For male, the conditions that have highest frequencies are eye, heart, hypertension, bone and blood conditions. For female, while for female, it is hypertension, eyes, heart, skeletal conditions and diabetes.

Macintyre, Hunt and Sweeting (1996) reported in their study that it is a conventional wisdom in medical sociology and social epidemiology that in industrialized societies men die earlier than women, but that women have poorer health than men. However, in several studies, the direction and magnitude of sex differences in health vary according to the particular symptom or condition in question and according to the phase of the life cycle. They surmised that female excess is only consistently found across the life span for psychological distress and is far less apparent, or reversed, for a number of physical symptoms and conditions. This is corroborated by studies, in which a relatively undifferentiated model of consistent sex differences has nevertheless continued to predominate in the literature.

Nevertheless, in a study about pain in older people, it was concluded that pain is greater among females (Tsang, et.al, 2008). Moreover, Mittmann, Trakas, Risebrough, & Liu (1999) in their study that determined the utility scores for various chronic conditions, concluded that *utility scores decreased as age and as the number of comorbid conditions increased*. Health Utilities Index (HUI) is a generic, preference-scored, comprehensive system for measuring health status, health-related quality of life and producing utility scores.

**Table 12.2:** Summary of Relationship between Common Chronic Conditions and Gender

Chronic Conditions	Chi square Value	p-Value	Q.I.	Decision
Hypertension	5.05	.08	NS	Retain H <sub>0</sub>
Eyes	.897	.64	NS	Retain H <sub>0</sub>
Heart	.417	.52	NS	Retain H <sub>0</sub>
Skeletal	.40	.53	NS	Retain H <sub>0</sub>
Diabetes	7.61	.006	S	Reject H <sub>0</sub>
Hematological	6.38	.012	S	Reject H <sub>0</sub>
Ears, Nose, Throat	.172	.679	NS	Retain H <sub>0</sub>
Vascular	2.88	.09	NS	Retain H <sub>0</sub>
Pulmonary	2.99	.08	NS	Retain H <sub>0</sub>
Renal	.376	.54	NS	Retain H <sub>0</sub>
Nervous System	.279	.598	NS	Retain H <sub>0</sub>
Cancer	.964	.326	NS	Retain H <sub>0</sub>
Gastrointestinal	.225	.635	NS	Retain H <sub>0</sub>
Hepatic	.767	.381	NS	Retain H <sub>0</sub>
Muscular	2.185	.139	NS	Retain H <sub>0</sub>
Biliary	.055	.815	NS	Retain H <sub>0</sub>
Others	2.748	.253	NS	Retain H <sub>0</sub>

Legend:

S- with significant difference; NS- No significant difference

It can be gleaned in Table 12.2 that gender is not an influential factor or does not affect an elderly to have chronic conditions, with the exception of diabetes ( $x^2=7.61$ ,  $df=1$ ,  $p<.05$ ) and blood conditions ( $x^2=6.38$ ,  $df=1$ ,  $p<.05$ ), in which significant associations are noted. Juxtaposing Tables 12.1 and 12.2, it can be suggested that more female older people are affected by diabetes than male older people and in blood problems, more male older people are affected by blood conditions. This is corroborated by the findings of Macintyre, et.al. (1996) that association between chronic conditions and gender varies in several studies.

Age

**Table 13.1:** Summary of Chronic Conditions According to Age

Condition	60 years		61-65 years		66-70 years		Above 70 years	
	WoC	WC	WoC	WC	WoC	WC	WoC	WC
Hypertension	36	19	56	32	28	15	39	37
Eyes	41	14	63	25	26	17	44	32
Heart	37	18	61	27	33	10	50	27
Skeletal	43	12	72	16	32	11	55	22
Diabetes	41	14	73	15	37	6	60	17
Hematological	44	11	74	14	39	4	70	7
Ears, Nose, Throat	54	1	78	10	41	2	66	11
Vascular	52	3	81	7	41	2	66	10
Pulmonary	52	3	82	6	40	3	73	4
Renal	54	1	85	3	42	1	71	6

Nervous System	55	0	83	5	42	1	73	4
Cancer	54	1	84	4	42	1	75	2
Gastrointestinal	54	1	84	4	43	0	74	3
Hepatic	55	0	86	2	42	1	77	0
Muscular	55	0	87	1	42	1	76	1
Biliary	55	0	87	1	43	0	76	1
Others	49	0	75	0	35	0	65	1

Legend: WC- With Condition; WoC-Without Condition

When age is considered, hypertension, heart conditions, diabetes, eye problems and bone problems are the most common chronic conditions affecting older people from age 60 to over 70 years old according to Table 13.1.

On the relationship between Common Chronic Conditions and Age.

**Table 13.2: Summary of Relationship between Common Chronic Conditions and Age**

Chronic Condition	Age			
	Chi square Value	p-Value	Q.I.	Decision
Hypertension	147.27	.000	S	Reject H <sub>0</sub>
Eyes	169.46	.000	S	Reject H <sub>0</sub>
Heart	38.49	.000	S	Reject H <sub>0</sub>
Skeletal	77.17	.000	S	Reject H <sub>0</sub>
Diabetes	95.4	.000	S	Reject H <sub>0</sub>
Hematological	140.56	.000	S	Reject H <sub>0</sub>
Ears, Nose, Throat	177.69	.000	S	Reject H <sub>0</sub>
Vascular	183.33	.000	S	Reject H <sub>0</sub>
Pulmonary	204.86	.000	S	Reject H <sub>0</sub>
Renal	219.17	.000	S	Reject H <sub>0</sub>
Nervous System	226.51	.000	S	Reject H <sub>0</sub>
Cancer	233.97	.000	S	Reject H <sub>0</sub>
Gastrointestinal	233.97	.000	S	Reject H <sub>0</sub>
Hepatic	253.14	.000	S	Reject H <sub>0</sub>
Muscular	253.14	.000	S	Reject H <sub>0</sub>
Biliary	257.06	.000	S	Reject H <sub>0</sub>
Others	444.08	.000	S	Reject H <sub>0</sub>

Table 13.2 affirms various theories about the aging process that as a person ages, body cells change and deteriorates and chronic conditions appear. All conditions are significantly associated with increasing age, that as age increases, number of chronic conditions increases as well (Mittmann, et.al, 2012). All the p-values are all below .05 therefore null hypothesis is rejected.

On the significance difference on the extent of self-efficacy when older people are grouped according to profile variables and duration of chronic conditions

Before significant difference is analyzed, a summary of the composite mean of self-efficacy level is presented vis a vis the profile variables and duration of the chronic condition affecting the older people (see Table 14.1 below). According to gender, males have higher mean in areas like regular exercise(x=3.30) and social/ recreational activities (x=3.4). However, females have higher mean than males in all other areas such as, obtaining information and help (3.59), communicating (3.70), managing disease in general (x=3.64), doing chores (x=3.43), managing symptoms (x=3.39), and controlling or managing depression (x=3.51). What can be noticed in the summary is that the areas females dominate males are on psychological and emotional areas while are more on the physical aspect such as regular exercise and social side like social and recreational activities.

**Table 14.1:** Summary of Composite Means of Self-Efficacy Level According to Profile and Duration of Condition

Indicators	Gender		Age				Duration of Condition			
	M	F	A	B	C	D	D1	D2	D3	D4
Regular Exercise	3.30	3.12	3.58	3.23	3.20	2.88	3.59	3.45	3.06	2.81
Obtain Information and Help	3.55	3.59	3.63	3.55	3.61	3.56	3.75	3.60	3.45	3.61
Communication	3.57	3.70	3.83	3.60	3.75	3.53	3.83	3.69	3.64	3.67
Managing Disease in General	3.43	3.64	3.71	3.59	3.61	3.38	4.08	3.50	3.69	3.39
Doing Chores	3.34	3.43	3.76	3.37	2.45	3.09	3.67	3.37	3.38	3.27
Social/Recreational Activities	3.4	3.36	3.68	3.39	3.49	3.09	3.69	3.51	3.30	3.19
Managing Symptoms	3.16	3.39	3.56	3.25	3.43	3.06	3.73	3.37	3.30	3.08
Control/Manage Depression	3.4	3.51	3.61	3.46	3.64	3.26	3.76	3.42	3.55	3.34

Legend: A- 60 years; B-61-65; C-66-70; D-above 70; D1-less than a year; D2-1-3 years; D3- 4-6 years; D4-above 7 years

Gender

**Table 14.2:** Difference in Self-Efficacy Level as to Gender

Self-Efficacy Indicators	z- Value	p-Value	Q.I.	Decision
Regular Exercise	1.27	.20	NS	Retain H <sub>0</sub>
Obtain Information and Help	.31	.76	NS	Retain H <sub>0</sub>
Communication	-.98	.33	NS	Retain H <sub>0</sub>
Managing Disease in General	-1.71	.09	NS	Retain H <sub>0</sub>
Doing Chores	-.69	.49	NS	Retain H <sub>0</sub>
Social/Recreational Activities	.26	.49	NS	Retain H <sub>0</sub>
Managing Symptoms	-1.88	.06	NS	Retain H <sub>0</sub>
Control/Manage Depression	-.95	.34	NS	Retain H <sub>0</sub>

Table 14.2 shows gender is not an influence on the level of self-efficacy of older people towards managing chronic conditions, may it be in regular exercise (z=1.273, p=.204), obtaining information and help (z=.311, p=.756), communication (z=-.978, p=.329), managing disease in general (z=-1.707, p=.089), doing chores (z=-.686, p=.493), social/recreational activities



( $z=.255$ ,  $p=.799$ ), managing symptoms ( $z=-1.878$ ,  $p=.062$ ), and control/managing depressions ( $z=-.948$ ,  $p=.344$ ).

Age

**Table 15:** Difference in Self-Efficacy Level as to Age

Indicators	F – Value	p-Value	Q.I.	Decision
Regular Exercise	4.25	.01	S	Reject $H_0$
Obtain Information and Help Communication	.18	.91	NS	Retain $H_0$
Managing Disease in General	1.17	.32	NS	Retain $H_0$
Doing Chores	1.55	.20	NS	Retain $H_0$
Social/Recreational Activities	4.60	.004	S	Reject $H_0$
Managing Symptoms	3.63	.01	S	Reject $H_0$
Control/Manage Depression	3.67	.01	S	Reject $H_0$
	2.34	.07	NS	Retain $H_0$

It can be gleaned from Table 15 that there are self-efficacy indicators that are influenced by age such as regular exercises ( $F=4.251$ ,  $p=.006$ ), doing chores ( $F=4.601$ ,  $p=.004$ ), social/recreational activities ( $F=3.63$ ,  $p=.014$ ), and management of symptoms ( $F=3.673$ ,  $p=.013$ ). Therefore, null hypothesis has been rejected since there is a significant difference in the level of self-efficacy when older people are grouped according to age grouping. Tukey's test further revealed that the level of self-efficacy between those aging 60 and below and 70 and above makes the difference in the level of efficacy in the four areas.

Duration

**Table 16:** Difference in Self-Efficacy Level as to Duration of Condition

Indicators	F – Value	p-Value	Q.I.	Decision
Regular Exercise	4.127	.001	S	Reject $H_0$
Obtain Information and Help Communication	.638	.671	NS	Retain $H_0$
Managing Disease in General	1.107	.357	NS	Retain $H_0$
Doing Chores	3.359	.006	S	Reject $H_0$
Social/Recreational Activities	1.087	.368	NS	Retain $H_0$
Managing Symptoms	2.109	.065	NS	Retain $H_0$
Control/Manage Depression	3.793	.003	S	Reject $H_0$
	1.664	.144	NS	Retain $H_0$

Table 16 suggests how duration of chronic condition influences self-efficacy of older people to manage their own condition particularly in the area of regular exercise ( $F=4.127$ ,  $p=.001$ ), managing disease in general ( $F=3.359$ ,  $p=.006$ ), and managing symptoms ( $F=3.793$ ,  $p=.003$ )

## Conclusions

The following are the conclusions of this study:

1. There are more female older people than the male. On the other hand, majority of older people nowadays belong to the age bracket 61-65 years of age.
2. Older people have the chronic conditions for one to three years and more than 7 years.
3. Among several chronic conditions; hypertension, eye conditions, heart problems, bone and joint conditions, and diabetes; emerged as the most common.
4. Older people are moderately confident that they can do regular exercise, do their chores, socialize, and manage the symptoms of their condition. However, they are highly confident that they can obtain help from others about their condition; they can manage their condition in general, communicate to others about their condition, and control depression to happen.
5. Gender does not affect an older person to have chronic conditions, except diabetes and blood conditions.
6. All conditions are significantly associated with increasing age that as age increases, number of chronic conditions increases as well.
7. Gender is not an influence on the level of self-efficacy of older people in managing chronic conditions.
8. Female older people have higher self-efficacy than the male in psychological and emotional aspects while male are higher on the physical aspects such as regular exercise and socialization.
9. Age can influence self-efficacy particularly on the areas of regular exercise, doing chores, socialization, and managing symptoms.

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