

**COMMON MUSCULOSKELETAL COMPLAINTS AMONG
ELDERLY PEOPLE AT ELDERLY CARE HOME**

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Bachelor of Science in Physiotherapy (B.Sc. PT)

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ELDERLY PEOPLE AT ELDERLY CARE HOME**

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DECLARATION

I declare that the work presented here is my own. All sources used have been cited appropriately. Any mistakes or inaccuracies are my own. I also declare that for any publication, presentation or dissemination of information of the study. I would be bound to take written consent from my supervisor.

Signature

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CONTENTS

	Page No
Acknowledgement	i
Abbreviations	ii
List of Figures	iii
Abstract	iv
CHAPTER- I: INTRODUCTION	1-10
1.1. Background	1
1.2. Justification of the Study	5
1.3. Research question	6
1.4. Objective of the study	6
1.4.1. General objective	6
1.4.2. Specific objective	6
1.5. List of variables	7
1.6. Operational definition	7
1.6.1. Musculoskeletal complaints	7
1.6.2. Elderly people	8
1.6.3. Musculoskeletal complaints and Elderly people	8
1.6.4. Elderly care home or center	8
1.6.5. Socio-demography	9
1.6.6. Age	9
1.6.7. Gender	9
1.6.8. Area	9
1.6.9. Urban area	9
1.6.10. Rural area	9
1.6.11. Previous occupation	9
1.6.12. Pain	9
1.6.13. Range of motion	10
1.6.14. Muscle weakness	10
1.6.15. Postural deformity	10
1.6.16. Kyphosis	10

	Page No
1.6.17. Lordosis	10
1.6.18. Scoliosis	10
1.6.19. ADL	10
CHAPTER- II: LITERATURE REVIEW	11-18
2.1. Elderly people and Ageing	11
2.2. Statistics of Elderly population in Bangladesh	12
2.3. The Ageing process	12
2.4. Physiology of Ageing Process	12
2.5. Conditions developed in Elderly population	13
2.6. Age-related changes in MSK structures in Elderly people	14
2.6.1. Changes in Cartilage	14
2.6.2. Changes in bone	14
2.6.3. Changes in Muscle and tendon	15
2.7. Musculoskeletal complaints developed in Elderly people	15
2.7.1. Pain	16
2.7.2. Joint range of motion	17
2.7.3. Muscle strength	17
2.7.4. Postural Deformity	17
2.7.5. Activities of daily living (ADL)	18
CHAPTER-III: METHODOLOGY	19-24
3.1. Study Design	19
3.2. Study population	19
3.3. Study site	19
3.4. Sample size	20
3.5. Inclusion criteria	20
3.6. Exclusion criteria	20
3.7. Sampling Technique	21
3.8. Method of data collection	21
3.9. Tools for data collection	22
3.9.1. Questionnaire	22
3.9.2. Informed consent	22
3.10. Data management and analysis	23

	Page No
3.11. Ethical Issues	23
3.12. Limitations of the study	24
CHAPTER-IV: RESULT	25-35
4.1. Musculoskeletal Complaints	25
4.2. Pain	26
4.3. Limitation of joint range of motion (ROM)	27
4.4. Muscle weakness	28
4.5. Postural Deformity	29
4.6. Difficulty during Activities of Daily living	30
4.7. Treatment	31
4.8. Musculoskeletal complaints and socio-demographic characteristics	32
4.8.1. Gender	32
4.8.2. Age	33
4.8.3. Geographical area	34
4.8.4. Previous Occupation	35
CHAPTER-V: DISCUSSION	36-39
CHAPTER- VI: CONCLUSION AND RECOMMENDATION	40-41
6.1. Conclusion	40
6.2. Recommendations	41
REFERENCES	42-47
APPENDIX	48-58

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Abbreviations

ADL:	Activities of Daily Living.
BAAIGM:	Bangladesh Association for the aged and Institute of Geriatric Medicine.
BHPI:	Bangladesh Health Profession Institute.
BMRC:	Bangladesh Medical and Research Council.
CRP:	Centre for the Rehabilitation of the Paralyzed.
MSD:	Musculoskeletal Disorder.
NSAID:	Non-Steroidal anti-Inflammatory Drug.
ROM:	Range of Motion.
SPSS:	Statistical Package for Social Science.
UN:	United Nation.
WHO:	World Health Organization.

List of Figures

	Page No
Figure-1 Different Musculoskeletal Complaints	26
Figure-2 Pain in different parts of the body	27
Figure-3 Limitation of Joint Range of Motion (ROM)	28
Figure-4 Muscle weakness	29
Figure-5 Postural Deformity	30
Figure-6 Difficulty of Activities of Daily living (ADL)	31
Figure-7 Treatment	32
Figure-8 Musculoskeletal complaints according to Gender	33
Figure-9 Musculoskeletal complaints in different age	34
Figure-10 Musculoskeletal complaints according to Geographical area	35
Figure-11 Musculoskeletal complaints according to previous occupation	36

Abstract

Purpose: To identify the Common Musculoskeletal Complaints among Elderly People at Elderly care Home. *Objective:* To identify the Common Musculoskeletal Complaints in different body region of Elderly people and to determine the Treatment received to solve Musculoskeletal Complaints and to explore the Socio-demographic Characteristics of Elderly people with musculoskeletal complaints *Methodology:* A Cross sectional study was conducted with a structured interviewer administrated questionnaire with mixed questions to collect information from 50 elderly people age ranging from 60 years to above 60 years. Data were numerically coded and captured in Microsoft Excel, using an SPSS 16.0 version software program. *Results:* Pain, Limitation of range of motion, Muscle weakness, Postural deformity and difficulty during Activities of Daily living were shown as musculoskeletal complaints in this study. Pain and difficulty in activities of Daily living were found to be the highest Musculoskeletal Complaints with 82% respectively. 74% had muscle weakness in different major group muscles in the body, 66% had limitation of Range of Motion in different joints of the body and 42% participants had postural deformity. Analysis of the study shown the socio-demographic characteristics of Elderly people with Musculoskeletal Complaints like age (more aged group showed more risk of complaining musculoskeletal complaints), gender (female were more risk than male), area (the frequency of rural people were more than the urban people), and previous occupation (the frequency of housewives were more than any other occupations like service holder and business man). *Conclusion:* Elderly people are gradually increasing in this world day by day, so musculoskeletal complaints among them are an issue of burning question. It is essential to find out the actual prevalence of musculoskeletal complaints among elderly people by taking mass population so that the result can be generalized and can take appropriate action and rehabilitation measures regarding this area.

1.1Background

Human are the best creature in this universe. We can experience ourselves, our thoughts and feelings, that's why we are separate from the rest. We born in child and some day we have to die. Growing and age through various stages in our lifetime is known as the human life cycle. The life cycle of human being is normally divided into five main stages, namely: infancy, childhood, adolescence, adulthood and old age (Azad India foundation, 2010). Every human have to face different type of unique experience during his or her life span. Old age due to natural ageing process is the final stage of human being where he or she enjoys the fulfillment of life experience. Aging is a wonderful experience in human being. The word 'wonderful' should not imply that aging includes only good things, but rather that it is extraordinary and remarkable (Kauffman et al., 2008).

Ageing was first formally studied in 1532 by Muhammad ibn Yusuf al-Harawi in his book "Ainul Hayat", published by Ibn Sina Academy of Medieval Medicine and Sciences (Wikipedia, 2011). The field of developmental biology that deals with the process of ageing is known as gerontology. The scientists who study the science of ageing are called gerontologists. 'Geriatrics' is the study of health and disease in later life and the comprehensive health care of older persons and the well-being of their informal caregiver (The Association for Gerontology in Higher Education, 2001).

Ageing is a process of change in the properties of a material occurring over a period, either spontaneously or through deliberate action. The physiological changes that takes place in the human body, leading to senescence, the decline of biological functions and of the ability to adapt to metabolic stress is called ageing. Basically ageing process represents the universal biological changes that occur with age and are unaffected by disease and environmental influences (World Health Organization, 2001). There is a controversy in exact age range of elderly people. Most developed countries have accepted the chronological age of 65 years as a definition of 'elderly' or older person but it varies in developing countries. There is no exact United Nations

(UN's) standard numerical criterion, but the United Nations agreed cutoff is over 60 (60+) years to refer to the older population (World Health Organization, 2012).

Basically human ageing refers to a multidimensional process of physical, psychological, and social change (Wikipedia, 2011). Ageing represents the passage of time, not pathology. It is an important part of all human societies reflecting the biological changes that occur, but also reflecting cultural and societal conventions. Age is usually measured in full years and a person's birthday is often an important event (Kauffman et al., 2008).

As the number of aged people increasing in this world additionally ageing process effects on different aspects of life in older people. Loss of body weight or skeletal muscle mass is common in older persons (Thomas, 2006) and leads to loss of muscle strength. At around 20–30 years of age for both men and women muscle cross-sectional area is generally the largest; this coincides with the highest strength levels within the lifespan. Thereafter, strength in most muscle groups declines, progressing slowly at first and then more rapidly after middle age. Most people notice the effect of skeletal muscle ageing in middle age when there is a perceived loss of strength and endurance. Strength loss among elderly individuals is directly associated with their limited mobility and physical performance as well as to the sequel of the increased incidence of accidents suffered by those with muscle weakness and poor balance. Another study shows that 40–50% reduction in muscle mass between 25 and 80 years of age, due to motor unit losses and muscle fiber atrophy (Nitz and Hourigan, 2004).

Musculoskeletal conditions are a major cause of physical disability in elderly people and the prevalence of this condition is expected to rise dramatically as the population ages. Impairment of physical function among older people has been shown to have a greater influence on level of disability and ability to continue independent living than either sight or hearing impairment (Marce et al., 1998).

Impairment of neuromuscular performance evidenced by muscle weakness, slowing of movement, loss of muscle power and early muscle fatigue is a prominent feature of old age in humans. This impairment is often accompanied by inactivity or chronic

diseases that will further impair neuromuscular performance. As a result, many elderly men and women have functional limitations on walking, lifting and maintaining postural balance and on recovering from impending falls, leading to disability (Kauffman et al., 2006).

In India It is shown that among the population over 60 years of age, 10% suffer from impaired physical mobility. A study conducted in the rural area of Pondicherry reported decreased visual acuity due to cataract and refractive errors in 57% of the elderly followed by pain in the joints and joint stiffness in 43.4%. In a community based study conducted in Delhi among 10,000 elderly people, it was found that problems related to vision and hearing topped the list, closely followed by backache and arthritis (Ingle and Nath, 2008).

In Bangladesh musculoskeletal complaints among elderly people increasing gradually which causes a massive suffering of them. But there is no exact statistics that, how many elderly people are suffering from and how long. Due to lack of proper statistical studies, 'complaints from musculoskeletal origin among elderly people' are not considered as an important issue in primary health care system. Actually Geriatric physical rehabilitation is a hidden thing in Bangladesh.

Advancement of age usually creates numerous problems in the elderly individual. The 'Brahma Vaivartya Purana' enumerates the number of old age disorders as sixty four. Elderly (geriatric) problems may be mainly divided into four categories: physical, psychological, emotional and social (Natural health remedies & alternative medicine articles and information, 2010). Among them physical problems, especially problems from musculoskeletal and orthopedic origin cause the major disability and limitation of movement in the elderly people (Marce et al., 1998).

Every individual's has to face different situations and different problems in there every stages of life cycle. The old age is not also without problems. In this stage deterioration of physical strength, diminishes mental stability, money power becomes bleak coupled with negligence from the younger generation (Azad India foundation, 2010).

The world's population is now aging at an unprecedented rate. If we move through the first decade of the twenty-first century, population aging has emerged as a major demographic worldwide trend. In a few years time, just after 2010, the numbers and proportions of older people begin to rise rapidly in most developed and many developing countries. The global population aged 65 and over was estimated to be 506 million as of midyear 2008 which is about 7 percent of the world's population. It is thought that by 2040, the world will project 1.3 billion older people which will be 14 percent of the total world population. The world's older population grew by an average of 870,000 people each month during the year. Projections 10 years hence suggest that the annual net increase will be on the order of 23 million, an average net monthly gain of 1.9 million people (Kinsella and He, 2008). The present scenario is such that about 70% older people are living in the developing world and 2 billion people will be aged 60 and older by 2050 (World Health Organization, 2012).

Although women usually live longer than men, the problems of America's elders are largely the problems of women. In 1996, there were just over 2 men for every 3 women older than 65; this ratio widened to about 1 man for every 3 women among individuals older than 85. Older women have a significant probability of living longer than their mates. In contrast to the 46% of women aged 65 years or older who were widows, only 15% of their male counterparts had lost their spouses (Cassel et al., 2003).

1.2 Justification of the Study

The elderly population is one of the most important parts of our national population. The present number of elderly people in Bangladesh is around 5.4 million. According to rank order of the world's 25 largest older populations in 2008, Bangladesh is in 17th position (Kinsella and He, 2008).

Statistical data indicate that in Bangladesh from the year 1974 to 2001 the number of elderly population increased from 1.38 to 7.5 million. It is expected that by 2021 the number of elderly will be 7.2% of the total population. About 6.22 million elderly people are living in rural areas in Bangladesh and of them 3.43 million are male. & 2.79 are female population (Islam and Islam, 2005).

The elderly in Bangladesh will face many problems such as insolvency, loss of authority, social insecurity, insufficient recreation facilities, lack of overall physical and mental care, problems associated with living arrangements etc. This is especially true for older women, who suffer from multiple disadvantages resulting from biases to gender, widowhood and old age. Population ageing will be the most prominent demographic trends of the new millennium. Like most developing countries, in Bangladesh ageing is often viewed as welfare rather than a developmental issue and as such the design of welfare policies and programs for older persons are categorized together with groups of poor, disabled and victims of disasters (Velkoff and Lawson, 1998). The advancement of medical science and increased awareness among the people has also brought about a sharp decline in mortality and a steady decline in fertility. This has resulted in a worldwide shift in the demographic profile and has lead to a significant increase in the aged population.

According to previous statement ageing will be one of the important issues in Bangladesh in future and we need to overcome this. The illness caused by ageing should be a prior part of Health sector in Bangladesh. To meet this challenge we need the actual prevalence and statistical data of different conditions, faced by aged people. Among them I tried to find out the prevalence of illness caused by musculoskeletal origin in elderly people at Elderly care home in Bangladesh.

1.3 Research question

What are the Common Musculoskeletal Complaints among Elderly people at Elderly care home?

1.4 Objective of the study

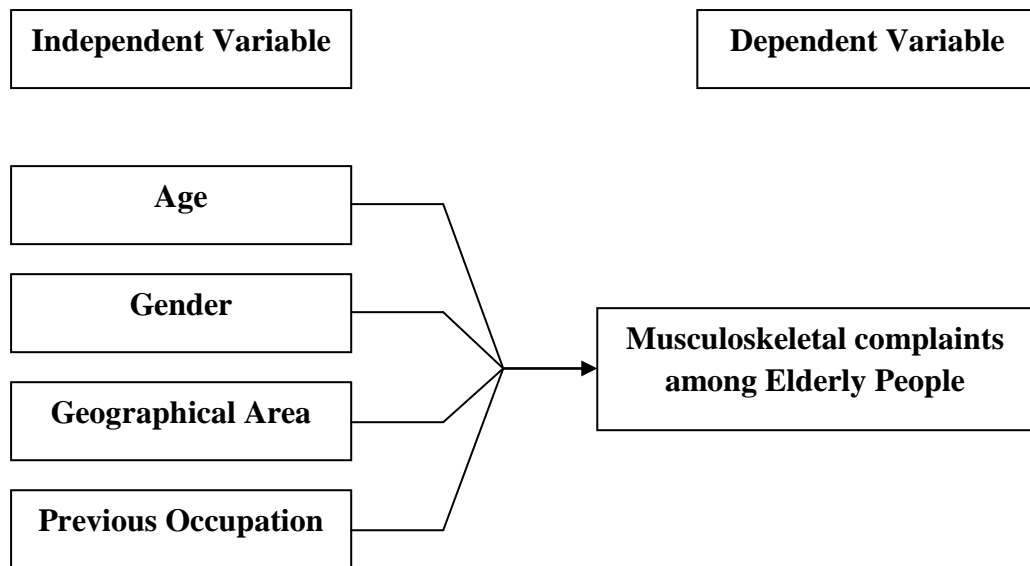
1.4.1 General objective

To determine the common musculoskeletal complaints among Elderly people at Elderly care Home.

1.4.2 Specific objective

- To find out the Common Musculoskeletal Complaints among Elderly people.
- To identify the Common Musculoskeletal Complaints in different body region of Elderly people.
- To determine the Common Treatment received to solve Musculoskeletal Complaints of Elderly people.
- To explore the Socio-demographic Characteristics of Elderly people with musculoskeletal Complaints.

1.5 List of variables



1.6 Operational definition

1.6.1 Musculoskeletal complaints

The human body is a complex machine with muscles attaching to the skeleton via a network of ligaments and tendons to enable us to move. Unfortunately the demands of daily life can lead to a variety of musculoskeletal complaints which can cause pain and limit movement. Such complaints can affect anyone, from the elite athlete to the non exerciser (General people) and can impact upon all activity levels. The complaints arises from musculoskeletal origin is called musculoskeletal complaints. Musculoskeletal complaints are a heterogeneous group of conditions with poorly understood causes. Musculoskeletal pain is the most frequently reported complaint in health interview survey. Musculoskeletal disorders (MSDs) can affect the body's muscles, joints, tendons and ligaments. Typically, Musculoskeletal disorders affect the back, neck, shoulders and upper limbs; less often they affect the lower limbs. The complaints arises from the musculoskeletal origin are predominantly pain, limitation of joint range, muscle weakness and sometimes cause postural and physical deformity. It also influences the activities of daily living.

1.6.2 Elderly people

Ageing is a universal human experience, in our society the terms for elderly people have been included seniors or elderly who are courteous to us for their experiences & wisdom. The United Nations agreed over 60 years is seen as 'elderly person' & the most developed world countries have accepted the age of 65 years as a definition of older person. According to WHO, the age for 'old people' is 60 or above in Bangladesh. United Nations (UN) has also categorized the age segments as; between 60 to 69 belongs to 'young old', 70 to 79 'Old old' & over 80 are 'Older' respectively.

1.6.3 Musculoskeletal complaints and Elderly people

The problems of musculoskeletal disorder increase dramatically with age, result in significant suffering & consume a significant proportion of health care resources. The major musculoskeletal complaint of elderly people is pain. Bone & joint disease are the major source of disability in people over the age of 75 years and these people have more difficulty in physical function. In recent survey, conducted in Sydney of more than 1500 people age 65 years or over, 50% reported a musculoskeletal condition that was being treated by their doctor and nearly a quarter of population were use NSAID for pain in the back, neck, knees, & hand. In this population musculoskeletal pain was the most common reported source of Disability.

Basically pain, limitation of joint range, weakness of muscle & some deformity are the major musculoskeletal complaints of elderly population. These kinds of complaints arises from different musculoskeletal conditions like- Osteoarthritis, Rheumatoid arthritis, Polymyalgia rheumatic, cervical myopathy or cervical stenosis, osteoporosis.

1.6.4 Elderly care home or center

To make a clear concept about 'Elderly care home' at we need to know about 'Elderly care'. 'Elderly care' or simply 'eldercare' is the fulfillment of the special needs and requirements that are unique to senior citizens. This broad term encompasses such services which include special care, nursing care, emergency care which assist living. The place where these kinds of service are given in a combined form is called

‘Elderly care home’. Sometimes its not possible to give all type of services to old people which they needed at home. That’s why the demand of ‘Elderly care home’ is gradually increasing.

1.6.5 Socio-demography

A study of both quantitative and qualitative aspects of human populations that broken down by age, sex etc.

1.6.6 Age

The number of years that a person has lived or a thing has existed.

1.6.7 Gender

The fact of being male or female.

1.6.8 Area

A rather small part of a geographical unit.

1.6.9 Urban area

The area situated in a city or town where all facilities are available.

1.6.10 Rural area

The area situated in a village or remote from urban where all facilities are not so available.

1.6.11 Previous occupation

A person's usual or principal work or business, especially as a means of earning a living. It is an activity that serves as one's regular source of livelihood, a vocation.

1.6.12 Pain

Feeling of suffering or discomfort in a particular part of the body.

1.6.13 Range of motion

The amount of movement occurred in a specific joint of the human body.

1.6.14 Muscle weakness

Decrease muscle power.

1.6.15 Postural deformity

Deformity at position of the body or spine.

1.6.16 Kyphosis

The posterior convexity or angulations of the thoracic spine of the body. Sometimes this convexity increase due to bad posture or ageing process.

1.6.17 Lordosis

The anterior convexity of the lumbar spine of the body. Sometimes this curvature may be reduce and the lower back become flat and causes back pain.

1.6.18 Scoliosis

Lateral curvature of the spinal column. It occurs either congenital or acquired. Any kind of fracture in vertebral column may cause scoliosis. Degenerative change in the vertebral body due to age may cause scoliosis.

1.6.19 ADL

The full meaning is 'Activities of daily living'. Tasks that enable individual to meet basic needs in their daily life style.

2.1 Elderly people and Ageing

Those who consist of ages nearing or surpassing the average life span of human beings, and thus the end of the human life cycle are called elderly people (Wikipedia, 2011). Elderly people are the senior persons in the society. The process through which the elderly people become old is 'Ageing'. Ageing is a gradual and continuous process of human life cycle. It can be defined in various ways, like: a process leading to the functional impairment of tissues and organs. In ageing progressively decline in body function, which makes elderly people more vulnerable to disease. Ageing means loss of adaptability and failure to maintain the body's homeostasis. It is a series of changes that lead to the loss of function of organs and cells, with the eventual outcome of death (Department for work and person, 2011).

Elderly people are more pathophysiologically heterogeneous than people at other stages of life as a result of the effects of aging itself, disease, lifestyle, and genetics (Cassel et al., 2003). Elderly people have limited regenerative abilities and are more prone to disease, syndromes, and sickness than other adults for the biology of ageing (Wikipedia, 2011).

To say the exact age of elderly people is very difficult. But the chronological criterion that is presently used for identifying the elderly people in America is strictly arbitrary and usually has been set at 65 years. But the onset of some of the health problems of elderly people may occur earlier, before entering their target age (Cassel et al., 2003). Most developed world countries have accepted the chronological age of elderly people is 65 years but it varies in developing countries. The United Nations (UN's) declared people who have over 60 years are considered as elderly population (World Health Organization, 2012).

2.2 Statistics of Elderly population in Bangladesh

Decreasing the fertility rates and improvement of life expectancy has led to rapid increase in the number of older people in Bangladesh. About 80,000 new elderly added to the over 60 age group each year. People aged 60 years and above make up 6 percent of the total population of our country. While this percentage is small compared to developed countries due to the large size of our population, it represents approximately 8 million people. Furthermore, projections indicate that the number of older people will increase by 173 percent by the year 2025. The majority of older people in Bangladesh belong to the 60- 69 years age cohort in both rural and urban areas. But about 80% of the older persons in Bangladesh live in rural areas (Chowdhury and Jabeen, 2008).

2.3 The Ageing Process

To understand ageing process, need to clear about the facts of ageing and senescence. Aging: showing the effects of time; a process of change, usually gradual and spontaneous. Senescence: the loss of the power of cell division and growth (Oxford dictionary, 2011). Basically “aging” is a continuum beginning with development, these two terms are usually used to refer to distinct processes. Specifically, development refers to a generative process over time necessary for life, whereas senescence refers to a degenerative process ultimately incompatible with life (Cassel et al., 2003).

2.4 Physiology of Ageing Process

Age-related changes in the physiological organ systems of the human body are major public health problems in the rapidly expanding elderly population. An understanding of the physiological changes and their impact on function is the crucial first step toward developing rational therapeutic or preventative measures to address these problems (Guccione, 2000).

Aging, from maturity to senescence, results in an apparent depletion of physiologic reserves that has been termed homeostenosis. The concept of homeostenosis is the characteristic, progressive constriction of homeostatic reserves that occurs with aging

in every organ system, was recognized by the famous physiologist Walter Cannon in the 1940s (Cassel et al., 2003).

Nathan Shock and his coworkers developed a general rule of thumb that shows physiologic impairments in human at a rate of about 5% to 10% per decade after the age of 30 (Cassel et al., 2003).

2.5 Conditions developed in Elderly population

The prevalence of geriatric conditions was similar to that of chronic diseases (Saitz, 2007). The proportion of elderly at any age without any chronic conditions is small. More than one half of male elders older than 80 years and 70% of female elders of similar age have two or more chronic conditions (Guccione, 2000). Life expectancy in old age continues to increase, and death rates for heart disease and stroke continue to decline while deaths from cancer are slightly increasing. Hypertension and osteoarthritis among the most common chronic conditions, affecting upwards of 40% of men and almost 50% of women. Other specific diagnoses, such as cancer or heart disease, affect about 20% of the population, with diagnosed diabetes and stroke around 10% (Cassel et al., 2003). In 1991, arthritis was the most prevalent self-reported condition of the elderly, followed by high blood pressure, diabetes, hearing impairments, and heart disease. Chronic conditions are not randomly dispersed throughout the population. Kingston and Smith analyzed data on 9744 men and women in the 1992, 'Health and Retirement Survey' and found that blacks reported higher rates of hypertension, diabetes, and arthritis than white survey participants. Hispanic participants reported higher rates of hypertension and diabetes but less heart disease (Guccione, 2000).

In a comparison of the youngest group (age range, 65–69) with the oldest group (90 and older), the prevalence of the following geriatric conditions increased with age: cognitive impairment (from 3% to 32%), injurious falls (from 6% to 22%), incontinence (from 9% to 27%), low body-mass index (from 1% to 12%), dizziness (from 10% to 18%), vision impairment (from 5% to 23%), and hearing impairment (from 19% to 52%). The proportion of people with three or more of these conditions also increased with age (from 3% to 31%). In analyses adjusted for the presence of

chronic disease (e.g., heart disease, diabetes, and cancer), the presence of a geriatric condition was significantly associated with needing assistance with an activity of daily living (Saitz, 2007).

2.6 Age-related changes in Musculoskeletal structures in Elderly population

Growing old is usually associated with a reduced level of physical activity. We can consider the changes in joint and connective tissue due to ageing in three points of view. First, changes in the structure and function of joint and connective tissue may occur simply as a natural process of growing old. Second, the type and degree of physical activity one engages is also have a significant influence on the structure and function of connective tissues. The third point is the pathology can affect the joint's connective tissue at any age and lead to profound functional limitations and disability. The effects of disease, reduced physical activity, and advanced age often occur simultaneously and may have a combined effect on joint function (Guccione, 2000). The changes occurred in different musculoskeletal structures due to ageing are shown below in order.

2.6.1 Changes in Cartilage

Histologically the density of chondrocytes and the amount of collagen within the extracellular matrix remain essentially unchanged in healthy articular cartilage in the aged adult but the water content in the tissue reduce with advanced age. The hydrophilic proteoglycans shown to become shorter in aged tissue and therefore lose their ability to hold water in the matrix. Dehydrated articular cartilage may have a reduced ability to dissipate forces across the joint. Aged articular cartilage may become more susceptible to mechanical failure (Guccione, 2000). As the cushioning cartilage begins to break down due to mechanical failure, joints become inflamed and arthritic (American academy of orthopedic surgeon, 2009).

2.6.2 Changes in bone

The precise shape and density of bone are maintained through life by a balance of mechanical and physiological mechanisms. Mechanical stress stimulates the formation of new bone; whereas the endocrine system functions to ultimately

reabsorb bone. Increased internal stress stimulates a net increase in bone density so that the bone can withstand higher forces (Guccione, 2000). This process throughout life called 'remodeling' (American academy of orthopedic surgeon, 2009). Jilka (2002) stated that histologic studies indicate that the number of osteoblasts present in the bone multicellular unit decline due to ageing and causes loss of bone mass. For this reason the bone becomes excessively brittle and prone to fracture, the condition may be classified as osteoporosis. This process is characterized by a progressive loss of both fibrous matrix and mineral content; new bone is not made at a rate to replace the natural rate of bone absorption (Guccione, 2000). In the spine, osteoporosis can lead to crush fractures of the vertebrae, resulting in a "dowager's hump." Osteoporosis is also responsible for almost all hip fractures in older men and women (American academy of orthopedic surgeon, 2009).

2.6.3 Changes in Muscle and tendon

As muscles age, they begin to shrink and lose mass. The number and size of muscle fibers also decrease. The water content of tendons, the cord-like tissues that attach muscles to bones, decreases as we age. This makes the tissues stiffer and less able to tolerate stress (Department for work and person, 2011). Less dense of muscle due to ageing, making the arms and legs look thinner. Muscle tissue may also become less flexible, and muscles can lose tone, which is harder to replace (Brien, 2011). Recent research indicates that the loss of force production in older people is primarily to the result of muscle atrophy and alterations in the percentage of contractile tissue within muscle (Williams et al., 2002).

2.7 Musculoskeletal complaints developed in Elderly people

Musculoskeletal complaints are a heterogeneous group of conditions with poorly understood causes. Musculoskeletal pain is the most frequently reported complaint in health interview surveys. The problems of musculoskeletal disorder increase dramatically with age, result in significant suffering & consume a significant proportion of health care resources (National health and medical research council, 2004). With age, there is an increase in body fat mass and decrease in lean body mass. The decrease of 'lean body mass' occurs primarily as a result of losses in skeletal muscle mass which decrease the muscle strength (Guccione, 2000). The majority of

aged people will have pain. Bone & joint disease are the major source of disability in people over the age of 75 years and these people have more difficulty in physical function. In recent survey, conducted in Sydney of more than 1500 people age 65 years or over, 50% reported a musculoskeletal condition that was being treated by their doctor and nearly a quarter of population were use NSAID for pain in the back, neck, knees, & hand. In this population musculoskeletal pain was the most common reported source of Disability (National health and medical research council, 2004). Some musculoskeletal complaints in elderly people are described below.

2.7.1 Pain

Pain is one of the most common symptoms of disease in older persons (Cassel et al., 2003). Pain among older adults is too frequently left undiagnosed and untreated (National pain foundation, 2011). It is one of the most common complaints in physicians' offices. Unrelieved pain, pain that persists, or pain out of proportion to tissue damage often results over time in complications that include physical disability and serious psychologic distress (Cassel et al., 2003). Researchers estimate that as many as one half of older adults who live independently and three-fourths of those who live in nursing homes suffer from persistent pain, that is, pain that does not go away. Most often, this type of pain is caused by arthritis, nerve damage, and muscular problems (Weiner, 2011).

Epidemiology studies of pain in general populations have suffered from the lack of standard definitions for what might be considered "significant" pain. Nonetheless, studies have suggested that the prevalence of pain in community-dwelling older persons may be as high as 25% to 56%. Sources of pain also vary from study to study. 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. In general, the most common cause of pain in elderly persons is probably related to musculoskeletal disorders such as back pain and arthritis. Nighttime leg pain (e.g., cramps, restless legs) is also common, as is claudication (Cassel et al., 2003).

Pain is also common in nursing homes. It has been suggested that 45% to 80% of nursing home residents may have substantial pain. Many of these patients have

multiple pain complaints and multiple potential sources of pain. Studies have suggested that for 70% of nursing home patients pain results from arthritis and other musculoskeletal causes (Cassel et al., 2003).

2.7.2 Joint range of motion

The loss of passive range of motion in the elderly is often progressive and subtle, occurring usually at the extremes of a joint's potential movement. This reduced magnitude of joint movement may exist even in the absence of pathology. In general, the magnitude of passive joint range of motion declines with advancing age 39 and the joint flexibility is clearly inversely related to age. Bell and Hoshizaki have shown that females tend to lose range of motion at a slower rate than males and those joints of the upper extremity remain more flexible than the joints of the lower extremities (Guccione, 2000). Cross sectional studies report decreases in flexibility of the shoulder, elbow, wrist hip, knee, ankle & spine with ageing. The flexibility of a typical sedentary 70 year old subject may show 20 to 30% decrease.

2.7.3 Muscle strength

The age-related loss in skeletal muscle mass has been termed 'sarcopenia' (Guccione, 2000). The age-related decrease in muscle strength that is of the same order of magnitude as the noted decrease in muscle mass. Between ages 30 & 80 strength is reduced approximately 40% in the leg & back muscles & 30% in the arm muscles. Another investigator reports that the mean strength of back and leg muscles decreases as much as 60%, largely reflecting a progressive loss of muscle mass at an average of 4% per decade from 25 to 50 years of age & 10% per decade after age 50 (Gonzalez et al., 2002).

2.7.4 Postural Deformity

Kaufman has reviewed the common postural changes seen with ageing (Gonzalez et al., 2002). Kyphosis, a curvature of the thoracic region of the spinal column resulting in a rounded upper back, or excessive lordosis (swayback), an increased amount of curvature of the lumbar or cervical regions of the spinal column are seen in elderly people. Scoliosis is also a common deformity found among elderly population. Degenerative scoliosis, particularly in the very elderly, is often associated with other

conditions, such as osteoporosis. A recent study reported mild to severe adult scoliosis prevalence as high as 68% in a healthy (no known scoliosis or spine surgery) population aged 60 and over (Mehlman, 2012).

2.7.5 Activities of daily living (ADL)

With ageing there is increase in difficulty in walking. It is found that 15% facing difficulty in walking between ages 65 & 69 & 49% after age 85. Comfortable walking speed declines at a rate of 2.5 to 4.5% per decade up to age 62 & at a rate of 16% per men & 12% for women. Decreased balance has been noted in 13% of 65 to 69 year old community living persons and in more than 46% of people 85 or more years old (Gonzalez et al., 2002). Postural instability is a commonly encountered problem in elderly populations which hamper the balance and thus reduce the functional activities (Borah et al., 2007). Arthritis is the most common condition affecting older persons and the most common cause of disability. Among non institutionalized persons over the age of 70, 32% had difficulty performing and 25% were unable to perform at least one of nine physical activities, such as dressing or bathing. Activity limitations increase with age and are more prevalent in females and in African-Americans. Those persons over age 85 are 2.6 times as likely to be unable to perform physical activities (Cassel et al., 2003).

3.1 Study Design

The study was conducted by using Cross sectional study design to meet the study objectives. A cross-sectional study is the simplest variety of descriptive or observational epidemiological study that can be conducted on representative samples of a population. It is a study that aims to describe the relationship between diseases and other factors of interest as they exist in a specified population at a particular time, without regard for what may have preceded or precipitated the health status found at the time of the study. These studies gather information about the prevalence of health-related states and conditions, but they cannot distinguish between newly occurring and long-established conditions. All they can do is measure the frequency of conditions and demonstrate associations. They cannot identify cause-and-effect relationships, though they do identify the existence of health problems (Last, 2011).

3.2 Study population

A population refers to the members of a clearly defined set or class of people, objects or events that are the focus of the investigation (Samantha, 2001). The criteria of study populations were determined from a literature review and the goals for the study. Selection criteria were established gradually, as the assumptions and theoretical base of the study unfold (Bailey, 1997). The population was the Elderly people who are lived in two selected Elderly care homes in Dhaka.

3.3 Study site

The study site of the proposed research was ‘Bangladesh Association for the Aged’ and ‘Shubarta Trust’. Bangladesh Association for the Aged is located at Agargaon in Dhaka, which is the leading pioneer association for Aged in Bangladesh. Shubarta Trust is also a famous organization working for Aged people and located at 15 holy Lane, Shaymoli in Dhaka.

3.4 Sample size

It is very difficult to establishing the best size of sample since this decision depends very largely on the investigator which is being undertaken (Hicks, 1999). Statistical studies (surveys, experiments, observational studies, etc.) are always better when they are carefully planned. In the study, sample must be adequate in size, relative to the goals of the study. Study sample must be “big enough” that an effect of such magnitude as to be of scientific significance will also be statistically significant (Lenth, 2001).

Sample Size Calculation

$$n = \left\{ Z \left(\frac{1 - \alpha/2}{d} \right) \right\}^2 \times pq$$

Here,

$$Z (1-\alpha/2) = 1.96$$

$$P=26\% = 0.26$$

$$q = 1-p = 1-0.26 = 0.74$$

$$d = 0.05$$

$$n = \frac{1.96 \times 1.96 \times 0.26 \times 0.74}{0.05 \times 0.05} = 295$$

But in this study the sample size was 50 Elderly people from two Elderly care homes in Dhaka, who were interested to take part in this study. The sample was selected according to the inclusion and Exclusion criteria.

3.5 Inclusion criteria

- Elderly people who have been living in Elderly care homes
- Elderly people whose age 60 and above 60 year, according to the criteria defined by united nation (UN) for Elderly people.
- Elderly people who were interested to participate in the study.

3.6 Exclusion criteria

The Elderly people of elderly care homes who have any recent diagnosed illness, such as severe Psychological illness that will be hampered the ability of the participants to communicate with the researcher in the time of data collection.

3.7 Sampling Technique

Finding the appropriate number and type of people to take part in the study was called sampling (Hicks, 2000). It is indeed difficult to choose a sample that claims to be representative of the population. For this study, purposive sampling method was used. Purposive sampling targets a particular group of people. When the desired population for the study is rare or very difficult to locate and recruit for a study, purposive sampling may be the only option.

3.8 Method of data collection

In this study data were collected by 'face to face interview' technique and by using structured questionnaire. Mixed type questionnaire included both open and close ended questions.

According to (Hicks, 1999) Survey is usually, used questionnaires or interviews by which information was gathered. Bowling (1997) stated that structured questions were always closed questions and most frequently used in survey research design. The strength of structured questionnaire was the ability to collect unambiguous and easy to count answers, leading to quantitative data for analysis. The "Open ended questions are those which allow respondents free range when supplying their answers" (Hicks, 1999). Open ended questions were most useful in dealing with complicated information when slight differences of opinion are important to know (Bailey, 1997). And closed questions allow the respondents only a limited choice of how to answer the questions (Hicks, 1999). In close ended question, it gave respondents an easy way out and would rather force them into a positive or negative answer (Bailey, 1997).

The face to face interview was provided opportunity to observe the facial expression and this was helped the researchers to determine whether the participant understands the questions or not (Arsham, 2000; Owens, 2002).

Firstly, the investigator introduced her, and described the objective and purpose of the research project as well. Then investigator was taken permission from the authority of Elderly care homes and met with the individual subject to find out if they were interested in participating. For data collection, the investigator used Bengali type of questionnaire so that Elderly people understood the questionnaire in the easiest way. Data was collected by a data collector who was a superintendent of that Elderly care home. He was well trained about procedure of data collection. After that investigator

fixed a date after 1 week to return the questionnaire. At last in investigator collected the questionnaire from the data collector in due date.

3.9 Tools for data collection

To collect data the 'data collector' use questionnaire form, pen, papers, consent form. To analyze the collected data 'SPSS' (Statistical Package for the Social Sciences, version-16) software were used.

3.9.1 Questionnaire

Data was collected using a questionnaire on paper. Hicks (1999) stated that Questionnaire was a method of collecting information whereby subjects answer a set of questions usually predefined by the researcher. In this questionnaire form structured questions were included for collecting data from the participants. For this investigator review some relevant previous studies questionnaire that help to design the questionnaire in order and identify important part of questions that needed to include. Open ended and close ended, mixed type of questions were selected to make the questionnaire. Bailey (1997) said that questionnaire must be kept in short that the respondent would finish it but long enough to obtain the desired information and the question should be sequenced in a logical order that they follow one another. In this questionnaire try to keep the question very easy so that participant can understand to answered. Investigator collected data from questionnaire and setup sequentially. The questions in the questionnaire are directly related to musculoskeletal complaints among Elderly people.

3.9.2 Informed consent

Before conducting research with the respondents, it is necessary to gain consent form from the subject or participant (Bailey, 1997). In this study participants were given an information sheet explaining the aims and purpose of the study and the methods of data collection they may be required to participate in. All were personally spoken to and given an opportunity to ask questions prior to signing a consent form. They were also informed that they were free to withdraw from the study at any time and in the event of this, any provided information would be destroyed at their request. Subject

were also informed that all of the information given by him/her should be maintained confidentially, the study result might not have direct effect on him or her but the members of physiotherapy profession and other clinical related profession may be benefited from the study in future.

3.10 Data management and analysis

The data analysis was performed in the program Statistical Package for social science (SPSS) version 16. The presentation was performed in SPSS and in Microsoft office word 2007. Every questionnaire was rechecked for missing information or unclear information. At first put the name of variables in the variable view of SPSS and the types, values, decimal, label alignment and measurement level of data. The next step was to input data view of SPSS. After input all data researcher checked the inputted data to ensure that all data had been accurately transcribed from the questionnaire sheet to SPSS data view. Then the raw data was ready for analysis in SPSS. Microsoft Word Excel was also used to present data using column and pie chart.

3.11 Ethical Issues

Ethical Issues was followed by World Health Organization (WHO) and Bangladesh Medical and Research Council (BMRC). At first permission was taken from the Ethical committee of department of Physiotherapy to conduct the research project & the authorities of the selected Elderly care homes. Written consent was taken from participants to ensure voluntary participation in the study and participants had the autonomy to leave the study any time. Participants were informed about the aim, objectives & the procedures involved in the study. Interviews were administrated in the free time of the Elderly people, when they had no self care activities (eating, bathing, sleeping etc). So the rules & regulations of the Elderly care Homes was not disrupted about the time Schedule for elderly peoples personal activities. All sources were cited and acknowledge appropriately.

3.12 Limitations of the study

It was an undergraduate study so some limitations and barriers during on conduction of this study may have. Although investigator tried to overcome all of the limitation but there are some limitations which has given below.

- The study samples were collected only from Elderly care homes at Dhaka. It wasn't possible to collect sample from the community at Dhaka division within a short period of time. That's why 50 participants were selected from 295 Elderly people following the inclusion and Exclusion criteria of the study. So the findings of the present study may not be generalized to all cases of the related topic.
- It is a new area of research in Bangladesh and there were no available studies on the same issues of geriatric setting. Therefore, it is difficult to discuss the findings in the context of Bangladesh. However, literatures were found from different international primary sources.

50 Participants were taken to find out the common musculoskeletal complaints among Elderly people at Elderly care Homes. Pain, Limitation of range of motion, Muscle weakness, Postural deformity and Difficulty during Activities of daily living (ADL) are shown as musculoskeletal complaints. Treatment received is shown in the discussion of result. The socio-demographic characteristics of Elderly people at Elderly care home also focused in the result.

4.1 Musculoskeletal Complaints

Among 50 participants study found that 41 participants were suffering from different musculoskeletal complaints. The main musculoskeletal complaints were pain as well as difficulty in activities of daily living (82%). Muscle weakness, Limitation of Range of motion in different joints of the body and postural deformity were the musculoskeletal complaints reported with 74%, 66% and 42%. (Figure: 1).

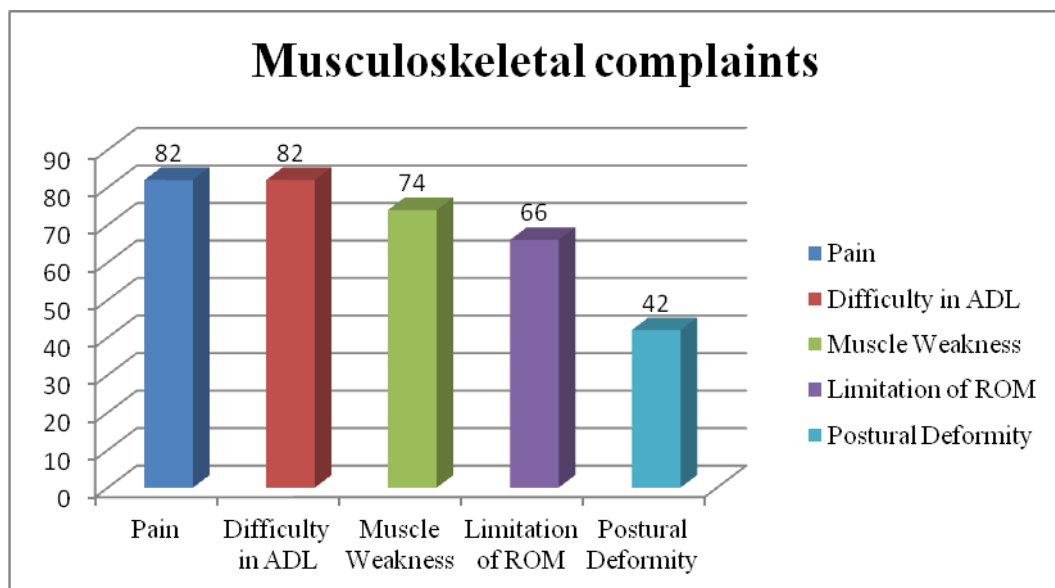


Figure-1: Different Musculoskeletal Complaints

4.2 Pain

Knee pain and lower back pain were found to be the highest pain complaints with 68% and 66% respectively. About half (50%) of the respondents complained of neck pain followed by Shoulder pain (48%), Ankle pain (28%), Upper back pain (26%), Elbow joint pain (22%), The Wrist joint pain (22%). Toes pain, Hip joint pain, Finger pain, Buttock pain, Headache and chest pain were the least pain complaints reported with 20%, 18%, 18%, 18%, 16% and 14% respectively.(Figure: 2).

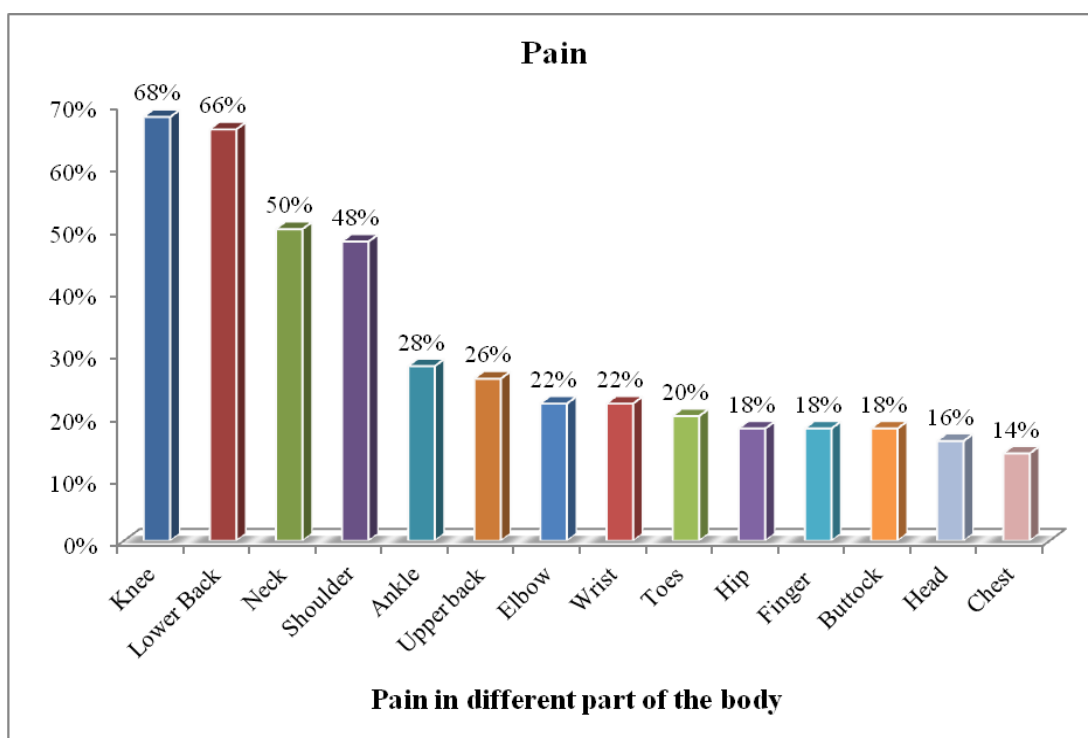


Figure-2: Pain in different parts of the body

4.3 Limitation of joint range of motion (ROM)

The highest limitation of joint range of motion presents at knee joint of the elderly people was 58% and limitation of range in Lower Back was 42%. The limitation of neck movement and limitation shoulder movement were 36% and 24%. Limitation of joint range of motion of Ankle joint, Fingers, Toes, Elbow, Wrist and Hip joints were the least complaints reported with 14%, 10%, 10%, 8%, 6%, and 6% respectively. (Figure: 3).

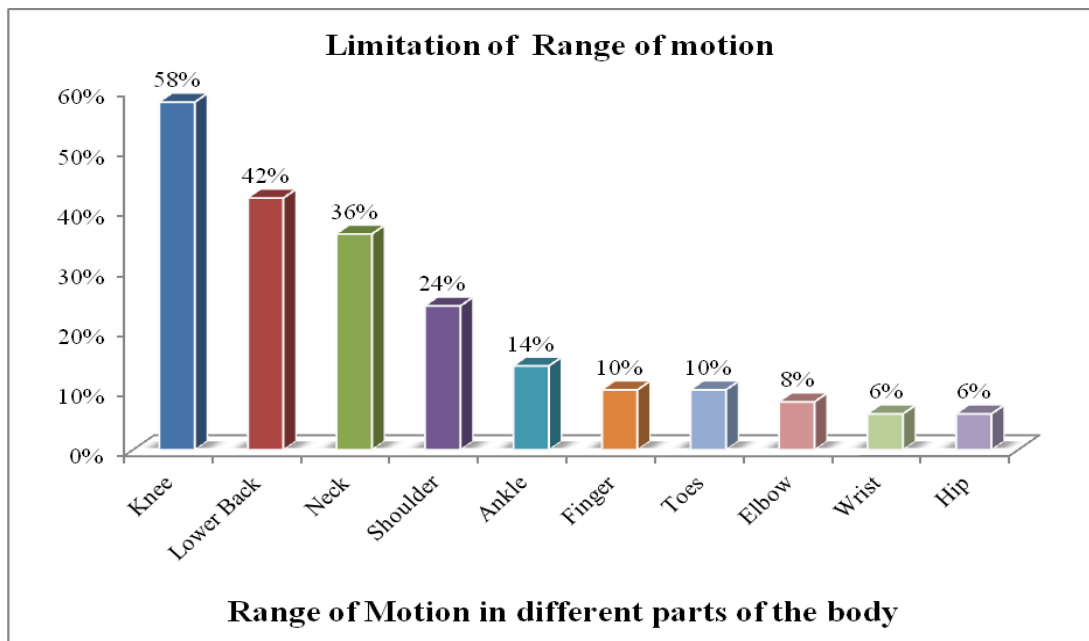


Figure-3: Limitation of Joint Range of Motion (ROM)

4.4 Muscle weakness

Weakness of leg muscle and weakness of back muscle were found to be the highest muscle weakness complaints with 58% and 50% respectively. The percentage of hand muscle weakness was 34% and neck muscle weakness was 28%. Weakness of arm muscle, weakness of Forearm muscle and weakness of thigh muscle were the least complaints reported with 14%, 14%, and 6% respectively.(Figure: 4).

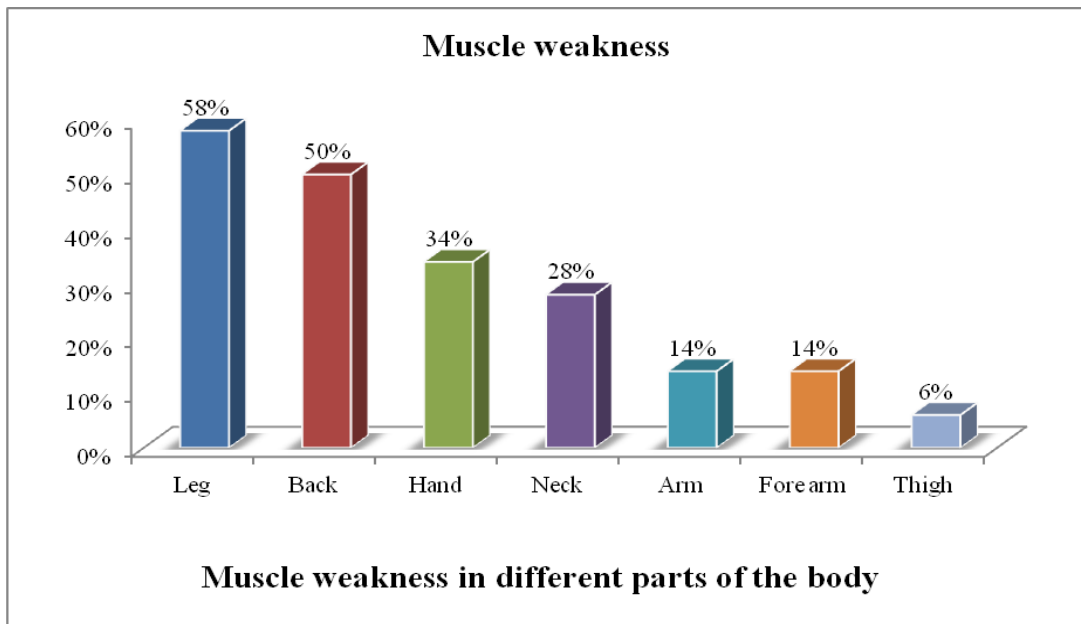


Figure-4: Muscle weakness

4.5 Postural Deformity

Kyphotic posture was found to be the highest postural deformity among the elderly people was 42%. Lordotic and Scoliotic postural deformity was not found from the respondents, which was 0% (Figure: 5).

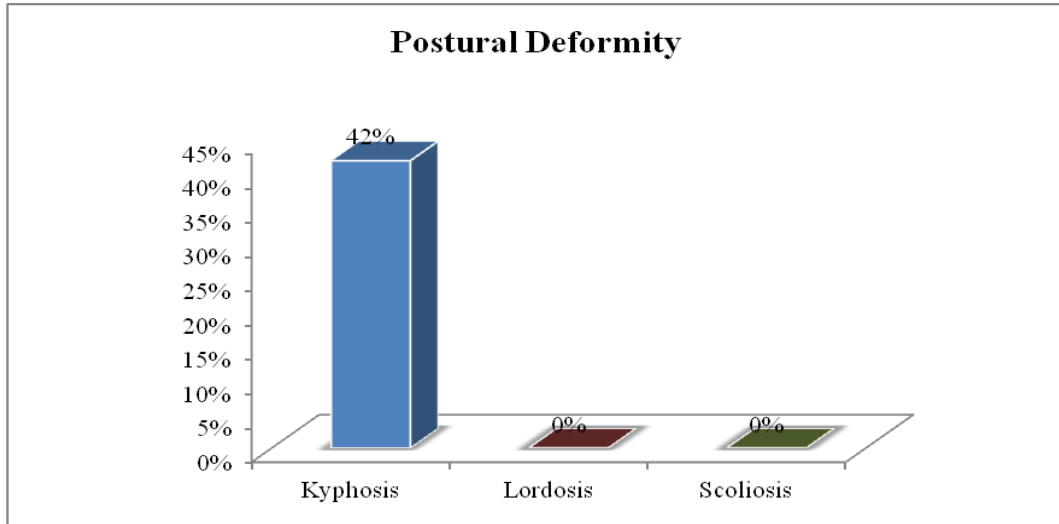


Figure-5: Postural Deformity

4.6 Difficulty during Activities of Daily living

Lifting was found to be the highest complaints of activities of daily living among elderly people was 80%. The percentage of Toileting and Walking was 70% and 60%. Gripping, Bathing, Writing, Dressing, Eating were the least complaints reported with 26%, 18%, 16%, 12%, and 10% respectively. (Figure: 6).

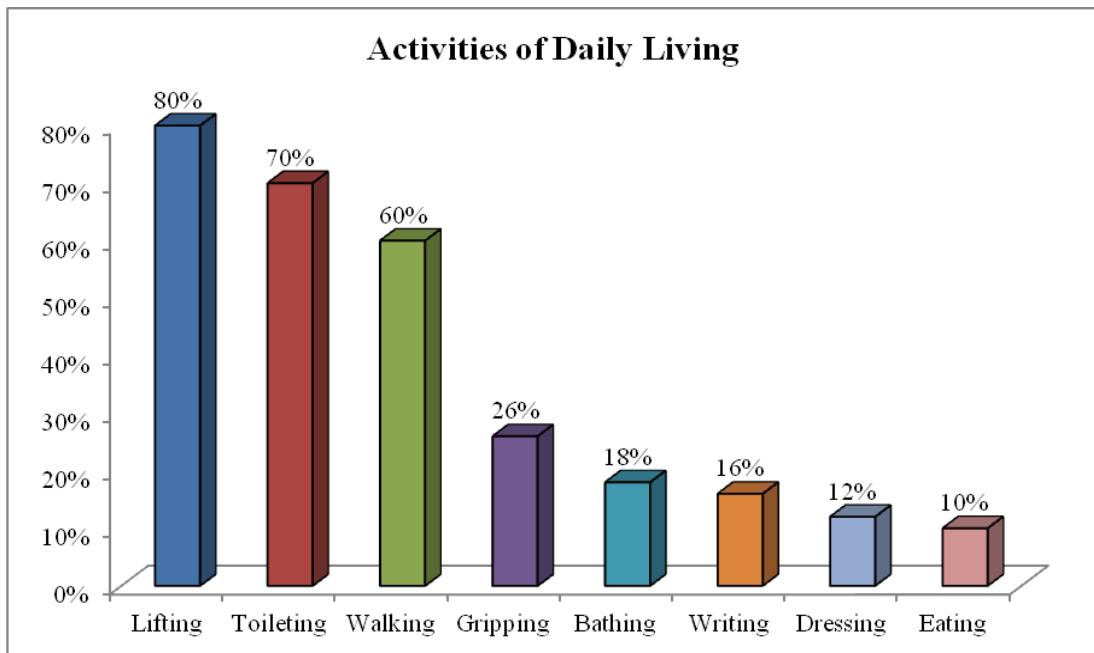


Figure- 6: Difficulty of Activities of Daily living (ADL)

4.7 Treatment

This study also revealed that 78% of the respondents took medication, 24% respondents visited to physiotherapist and only 2% respondents have taken surgical management. (Figure: 7).

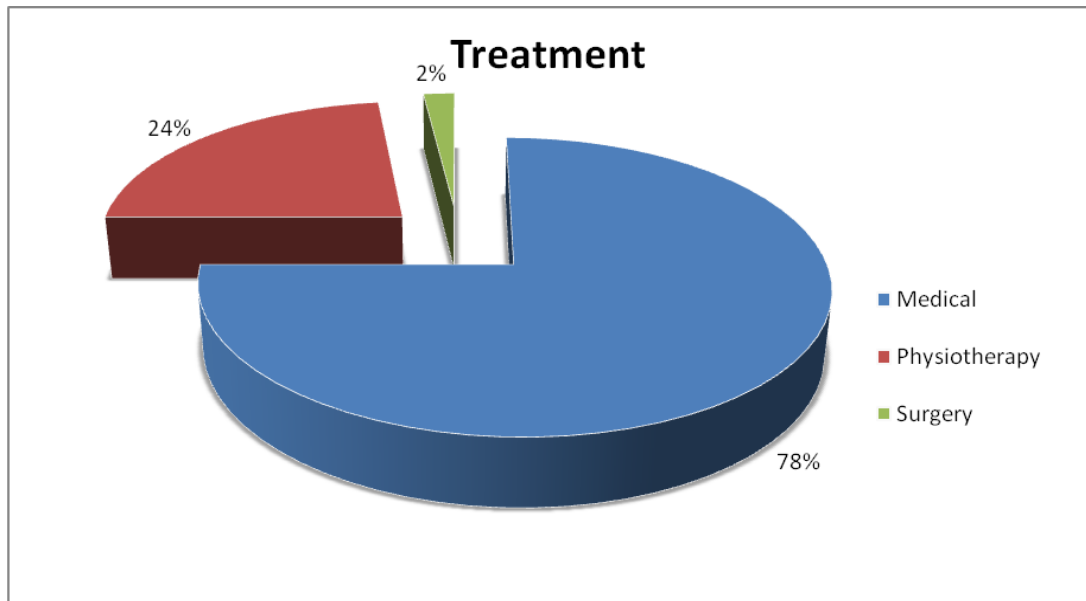


Figure- 7: Treatment

4.8 Musculoskeletal Complaints and Socio-demographic characteristics

4.8.1 Gender

Among the 50 participants 24 were male and 26 were female and. 41 participants had different musculoskeletal complaints and 9 participants had not musculoskeletal complaints. Among the 41 participants, who had musculoskeletal complaints, 18 were male and 23 were female. So the percentage of male and female who had musculoskeletal complaints were 43.90% and 56.1% and the frequency was 75% and 88.5%. (Figure no: 8).

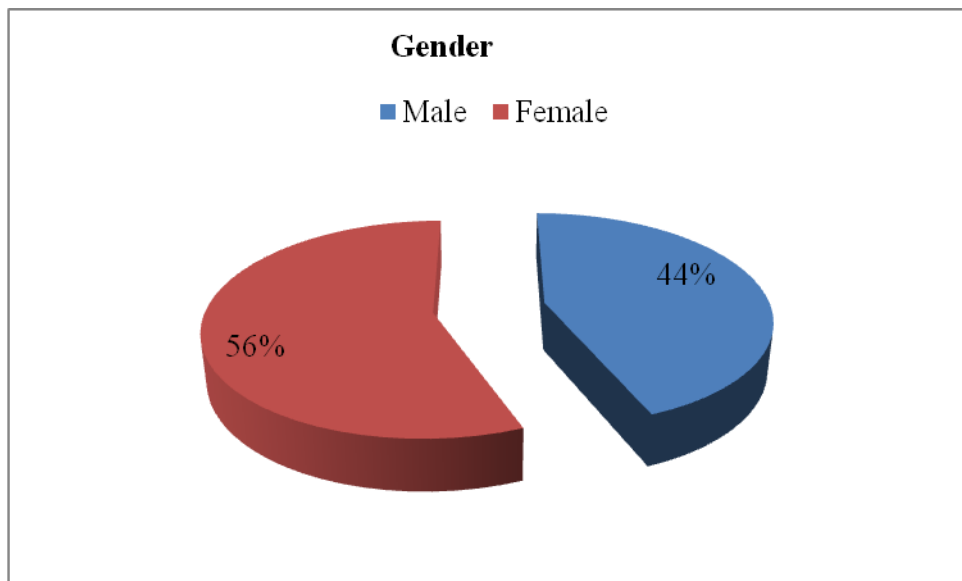


Figure 8: Musculoskeletal complaints according to Gender

4.8.2 Age

In the study, the lowest age was 60 and the highest age was 90 years. Study found 24.4% participants had musculoskeletal complaints whose age range in between 60-64 years, 29.3% participants had in between 65-69 years, 19.5% participants had in between 70-74 years, 12.2% participants had in between 75-79 years and 14.6% participants had in between 80+.

(Figure 9). The mean age of Participant with Musculoskeletal Complaints was $69.56 \pm$ (Slandered Deviation 7.280) and The Mean age of participants who had no Musculoskeletal Complaints was $63.44 \pm$ (Slandered deviation 4.126).

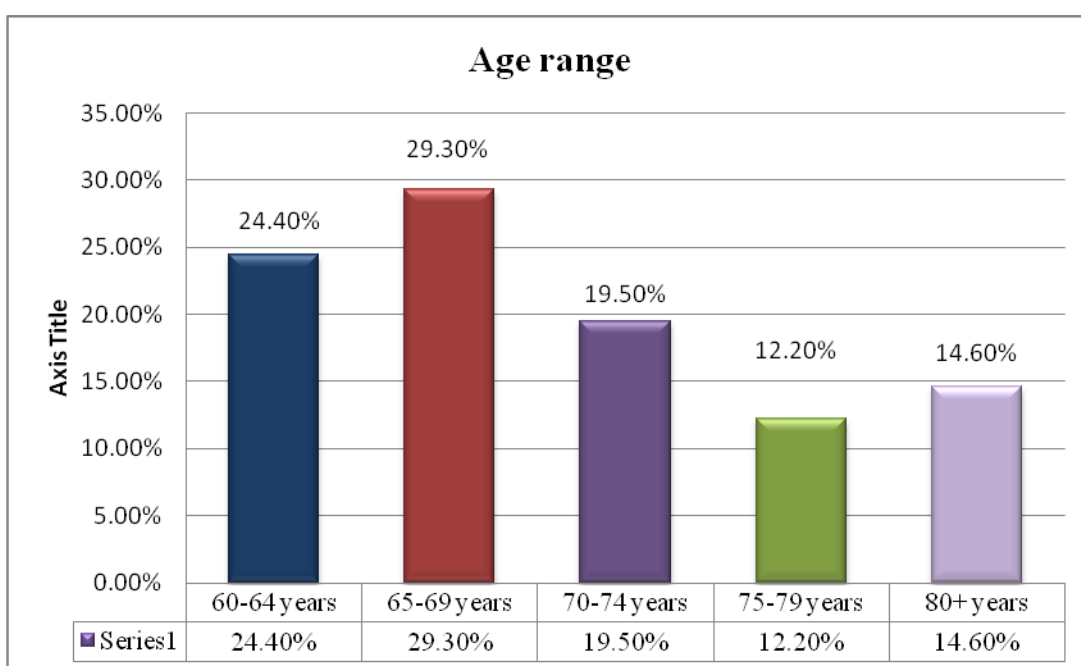


Figure- 9: Musculoskeletal complaints in different age

4.8.3 Geographical Area

Among the 50 participants 40 participants were from urban area and rests of the 10 participants were from the rural area. Among 40 participants from urban area, 32 participants had a musculoskeletal complaint which was about 78.0% and the frequency was 80.0%. Among 10 participants from rural area, 9 participants had a musculoskeletal complaint which was about 22.0% and the frequency was 90.0%. (Figure: 10).

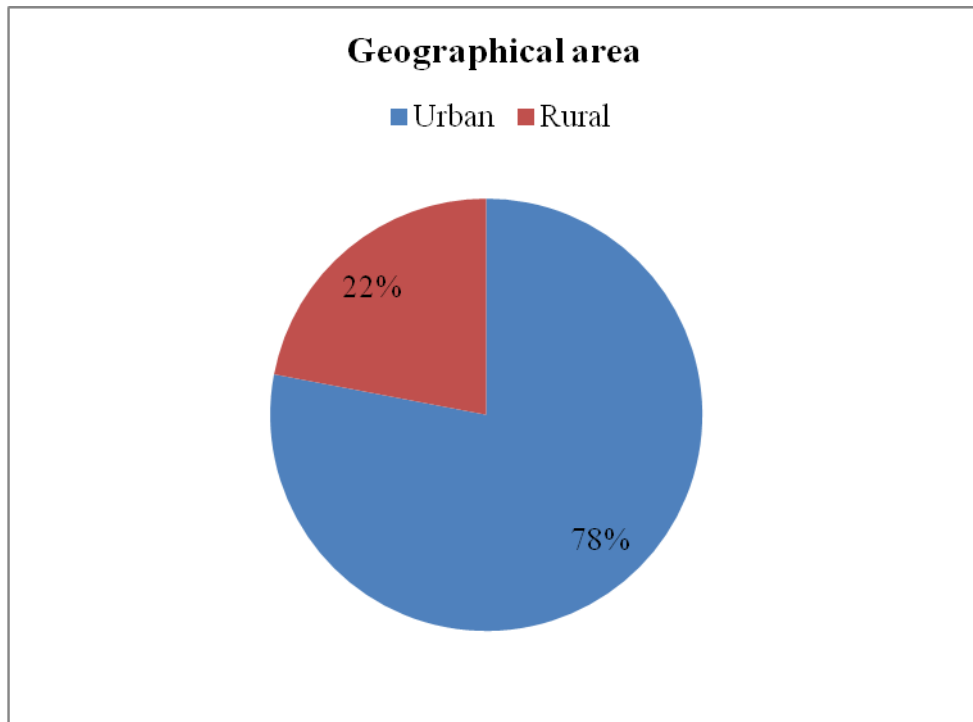


Figure 10: Musculoskeletal complaints according to Geographical area

4.8.4 Previous Occupation

Among 50 participants 36 participants were government service holder, where study found 28 participants had a musculoskeletal complaint which was about 68.3% and the frequency was 77.8%. 4 participants were business man where 3 participants had a musculoskeletal complaint which was about 7.3% and the frequency was 75.0%. 10 participants were housewife where all of them had musculoskeletal complaint which was about 24.4% and the frequency was 100.0%. (Figure: 11).

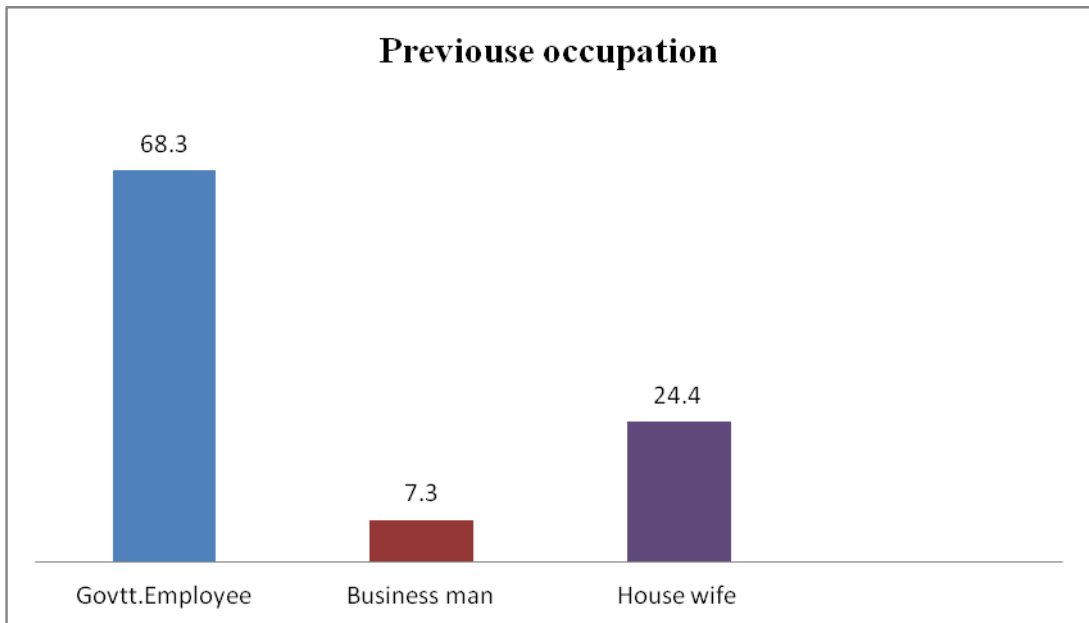


Figure- 11: Musculoskeletal complaints according to previous occupation

Among 50 participants 41 participants (82%) who had complaints that they are suffering from different musculoskeletal complaints. A study was done in 400 Nairobi elderly people where found 80% participants were suffering from different musculoskeletal complaints (Waweru et al., 2003). From the study among 41 participants were equally suffering from pain as well as difficulty in activities of daily living (82%) , muscle weakness (74%), limitation of ROM in different joints of the body was 66% and postural deformity especially kyphotic posture was 42 %. A study named 'Pain experiences, control beliefs and coping strategies in Chinese elders with osteoarthritis' that most participants (70%) suffered moderate to severe worst pain (Tsai et al., 2008). Musculoskeletal complaints in the Netherlands in relation to age, gender and physically demanding work shows that the risk of musculoskeletal complaints among workers increases with advancing age. Back, neck and complaints in lower extremity was the most common (Zwart et al., 1997).

Pain in different joint was one of the most common musculoskeletal complaints among the elderly people. Statistical analysis among 41 participants who were suffering from musculoskeletal complaints in this study shows that knee joint pain was the highest position (68%) and second highest was Low Back Pain (66%). National Academy on an Aging Society found that those who hospitalized over 75 years, 26% are for different arthritic problems especially for hip and knee problem each year (National Academy on an Aging Society, 1999). Williams (2009) stated that the prevalence of back pain in the geriatric population is estimated to be more than 70%. About 50% elderly people complaints neck pain and 48% elderly people complaints shoulder pain in this study as well. Some study shows that pain in the head and neck region is a common symptom in elderly people, with degenerative disease and neoplasm being the most frequent causes (Macrae, 1986). So from the study it can be summarized that knee pain, Low Back Pain, neck pain and shoulder pain were the most common complaints among elderly people rather than other complaints.

Another study shows that neck and back complaints in total represent the third most common symptom reported by elderly patients to their primary care physicians (Kalkanis and Borges, 2001). In the study chest pain (14%) was the least complaints and hand pain (16%) was the second least complaints among the elderly people. Rest of the complaints like ankle (28%), upper back (26%), elbow (22%), wrist (22%), toes (20%), hip (18%), finger (18%), buttock (18%) pain were the moderate to mild degree complaints has been shown in order.

Limitation of range of motion in different joints of elderly people was another musculoskeletal complaint as during old age degenerative change had found in the joints. From the statistical analysis of the study showed that the highest limitation of joint Range of Motion was in knee joint (58%) and the second highest was lower back (42%) then neck (36%), then shoulder (24%) and ankle (14%). If we look over the complaints of pain, the study found that highest pain felt at knee joint (68%) and the second highest was Low back pain (66%), then neck pain (50%), then shoulder pain (48%) and then ankle pain (28%) which follows the order of limitation of joint Range of motion because there was a close relation between pain and limitation of joint Range of motion. A study about predicting the course of functional limitation among older adults with knee pain shows that the older adults with knee pain will experience progressive or persistent functional difficulties or Limitation of Range of motion (Thomas et al., 2008). Another study says that arthritis is a major contributor to disability among older people which cause limitation of Range of motion in different joints and is especially disabling for older women, who have higher prevalence rates and greater disability than their male counterparts (Hughes and Dunlop, 2005).

The study also found that the leg muscle weakness (58%) was the most common complaint then back muscle (50%) then hand muscle (34%) and then neck muscle (28%) which follow almost same order of previous complaint pain and limitation of joint Range of motion. In one study showing that more than a third of people aged over 65 fell each year, the main risk factor was muscle weakness (Venning, 2005). U.S national institute of Ageing stated that (2007) multiple biological and psychosocial factors may contribute to or influence fatigue and biological mechanisms include changes in skeletal muscle function called weakness.

In postural deformity the study found that kyphosis was the major deformity (42%) in elderly people. It is generally accepted that the thoracic kyphotic angle increases with advancing age, in particular in older women. The “dowager hump” is well recognized, and most people equate this with underlying vertebral compression deformity or angulations (Bartynski et al., 2004). A cross-sectional study suggested greater increase in kyphosis with increasing age in women compared with men (Milne and Williamson, 1983). The prevalence of kyphosis in older persons is not precisely known, however current estimates range between 20 and 40 percent (Kado et al., 2010).

Activities of daily living, lifting (80%) was in the top most complaint of elderly people then toileting (70%) and then walking (60%). In developed countries shown that up to 40% of persons over 65 suffer from a chronic illness or disability that limits their daily activities (Hutton, 2008). One study shows that middle-aged persons who report a history of arthritis are more likely to develop mobility and Activities of Daily Livings difficulties as they enter old age (Covinsky et al., 2008). In 2006 The World Health Organization estimated that 10% of the world's population has some form of a disability, 20% of those aged 70+, and 50% of those aged 85+. That is, with increasing age, disability increases and, among those who are elderly whose age 65 and over (Chappell and Cooke, 2008).

This study also found that about 78% participants seek medical treatment for their complaints, about 24% seek physiotherapy management and 2% seek for other management.

The study found that 43.90% are male and 56.09% are female who had musculoskeletal complaints. In Netherlands the prevalence of disability is higher in female than male old people (Zwart et al., 1997). The prevalence of most chronic conditions in older adults has increased slightly over the past twenty years in US and the female population is more affected than male. 64% of women were suffering from Arthritic condition where the men were 50% in US. Women were more likely to have a chronic disability than men, and older African-Americans are more likely to have a

chronic disability than older non-Hispanic whites (National Center for Health Workforce Analysis, 2006).

The study found that 22% participant from rural area and 78% participant from urban area who had musculoskeletal complaints but the Frequency was 90% in rural people and 80% in urban people. This is because in rural area most of the population are illiterate and haven't got more facilities compare to urban population. In case of occupation study found that housewives are the more risk occupation (100%) rather than service (77.8%), businessmen (75%) prone to musculoskeletal complaints.

6.1 Conclusion

Aging is a series of process that begins with life and continues throughout the life cycle. Elderly age represents the closing period in the lifespan, a time when the individual looks back on life, lives on past accomplishments and begins to finish off his life course. From the perspective of Bangladesh old age is currently a big social issue. Musculoskeletal complaints are a heterogeneous group of conditions with poorly understood causes. The problems of musculoskeletal disorder increase dramatically with age, result in significant suffering & consume a significant proportion of health care resources. Basically pain (82%), limitation of joint range of motion (66%), Weakness of muscle (74%), Postural deformity (42%) and difficulty during Activities of Daily livings (82%) were the major musculoskeletal complaints of elderly population. Study indicated that knee pain (68%) was the highest pain complaints, the highest limitation of joint range of motion present at knee joint (58%), Leg muscles (58%) were weaker, Kyphosis (42%) was the highest postural deformity and more difficulty present during Lifting (80%) and Toileting (70%). Also shown the relationship between musculoskeletal complaints with socio-demographic factors like age (more aged group showed more risk of complaining musculoskeletal complaints), gender (female were more risk than male), area (the frequency of rural people were more than the urban people), and previous occupation (the frequency of housewives were more than any other occupations like service holder and business man). The result of this study would help in preventing musculoskeletal complaints of Elderly people. Physiotherapy plays a vital role and provides expertise in the concept of preventive and curative rehabilitation to prevent and minimize musculoskeletal complaints of Elderly people.

6.2 Recommendations

A recommendation evolves out of the context in which the study was conducted. The purpose of the study was to identify the Common Musculoskeletal Complaints among Elderly people at Elderly care Home. Though the research has some limitations but researcher identified some further step that might be taken for the better accomplishment of further research. For the ensuring of the generalizability of the research it is recommended to investigate large sample. In this study Elderly people were taken only from Elderly care home of Dhaka city. So for further study it was strongly recommended to include the Elderly people from all over Bangladesh.

Due to organizational problem it was not possible to do pilot study. But pilot study is very much important for the validity of questionnaire. For this it is strongly recommended that if any further study will be done in this area then pilot study should be done to format the questionnaire.

Beside this in this study the ratio of male and female participants were unequal. So it is recommended for further study to take the participants equally for comparison of gender and Musculoskeletal Complaints.

In future there is scope for further studies to be done. Further study should identify the causes and risk factors of musculoskeletal complaints among Elderly people in both community and Elderly care homes and identify scope of physiotherapy practice in this issue.

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APPENDIX: A

Questionnaire form (Bangla)

প্রশ্নপত্র

ব্যক্তিগত তথ্য

১। কোড নাম্বার:.....

২। বয়স:.....

৩। লিঙ্গ:.....

৪। ঠিকানা:.....

৫। ফোন নম্বর:.....

৬। ধর্ম:.....

৭। ভৌগোলিক অবস্থান: নগর গ্রাম

৮। শিক্ষাগত যোগ্যতা:

অশিক্ষিত প্রাথমিক মাধ্যমিক উচ্চমাধ্যমিক

স্নাতক স্নাতকোত্তর অন্যান্য

৯। পূর্বের পেশা:

চাকুরী কৃষক গৃহিনী

ব্যবসায়ী দিন মজুর অন্যান্য

১০। পরিবারের সদস্য সংখ্যা:.....

১১। কখন আপনি এই কেন্দ্রে এসেছেন:.....

প্রয়োজনীয় তথ্য

এই অংশ টুকু শুধুমাত্র বয়স্ক সেবা কেন্দ্রে বয়স্কদের অস্থি ও মাংসপেশী জনিত অভিযোগ গুলোর জন্য সাজানো হয়েছে।

১২। আপনি কি কখনো আপনার শরীরের কোন অংশে ব্যথা বা ব্যথা জাতীয় কোন সমস্যা অনুভব করেছেন?

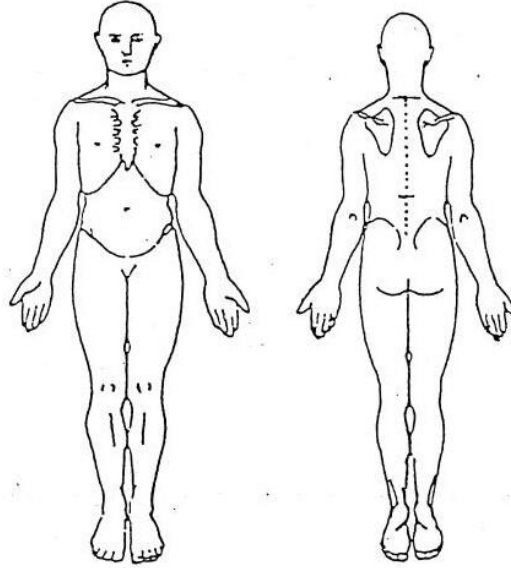
হ্যাঁ না

(যদি 'হ্যাঁ' হয় তাহলে ১৩ নং প্রশ্নের উত্তর দিন আর যদি 'না' হয় ১৫ নং চলে যান)

১৩। আপনি নিম্নবর্ণিত আপনার শরীরের কোন অংশে ব্যথা অনুভব করছেন বা করেছিলেন। টিক দিন (✓)

- | | |
|---|--|
| <input type="checkbox"/> মাথা | <input type="checkbox"/> ঘাড় |
| <input type="checkbox"/> স্কন্ধ | <input type="checkbox"/> কনুই |
| <input type="checkbox"/> কঙ্গি | <input type="checkbox"/> হাতের আস্তুল |
| <input type="checkbox"/> পিঠ | <input type="checkbox"/> কোমর |
| <input type="checkbox"/> বুক | <input type="checkbox"/> উরু সন্ধি |
| <input type="checkbox"/> নিতম্ব | <input type="checkbox"/> হাঁটু |
| <input type="checkbox"/> পায়ের গোড়ালী | <input type="checkbox"/> পায়ের আস্তুল |

১৪। টিক (✓) চিহ্নের মাধ্যমে আপনার অনুভূত ব্যথার জায়গাটি চিহ্নিত করুন।



১৫। আপনি কি কখনো আপনার শরীরের কোন অস্থি সন্ধিতে নড়াচড়া জনিত সীমাবদ্ধতা অনুভব করেছেন?

- | | |
|--------------------------------|--------------------------------|
| <input type="checkbox"/> হ্যাঁ | <input type="checkbox"/> ন্যাঁ |
|--------------------------------|--------------------------------|

(যদি 'হ্যাঁ' হয় তাহলে ১৬ নং প্রশ্নের উত্তর দিন আর যদি 'না' হয় ১৭ নং চলে যান)

১৬। আপনি নিম্নবর্ণিত আপনার শরীরের কোন অস্থি সন্ধিতে নড়াচড়া জনিত সীমাবদ্ধতা অনুভব করেছেন বা করেছিলেন।

- | | |
|---|--|
| <input type="checkbox"/> ঘাড় | <input type="checkbox"/> স্কন্ধ |
| <input type="checkbox"/> কনুই | <input type="checkbox"/> কঙ্গি |
| <input type="checkbox"/> হাতের আস্তুল | <input type="checkbox"/> কোমর |
| <input type="checkbox"/> উরু সন্ধি | <input type="checkbox"/> হাঁটু |
| <input type="checkbox"/> পায়ের গোড়ালী | <input type="checkbox"/> পায়ের আস্তুল |

১৭। আপনি কি কখনো আপনার শরীরের কোন অংশের মাংশপেশীতে দুর্বলতা অনুভব করেছেন?

হ্যাঁ

না

(যদি 'হ্যাঁ' হয় তাহলে ১৮ নং প্রশ্নের উত্তর দিন যদি না হয় ১৯ নং চলে যান)

১৮। আপনি নিম্নবর্ণিত আপনার শরীরের কোন অংশের মাংশপেশীতে দুর্বলতা অনুভব করেছেন বা করেছিলেন। টিক (√) দিন

ঘাড়ের মাংশপেশীতে

কোমরের মাংশপেশীতে

বাহুর মাংশপেশীতে

অগ্রহাতের মাংশপেশীতে

হাতের মাংশপেশীতে

উরুর মাংশপেশীতে

পায়ের মাংশপেশীতে

১৯। আপনি কি আপনার শরীরের পিঠের অংশের কোন শারীরিক বিকৃতি আছে?

হ্যাঁ

না

(যদি 'হ্যাঁ' হয় তাহলে ২০নং প্রশ্নের উত্তর দিন আর যদি 'না' হয় ২১ নং চলে যান)

২০। আপনার পিঠে নিম্নবর্ণিত কোন ধরনের শারীরিক বিকৃতি আছে?

কুঁজো ভাব

অতিরিক্ত সোজা ভাব

ডান অথবা বাম দিকে বাঁকা ভাব

২১। আপনার নিম্নবর্ণিত কোন কোন দৈনন্দিন কাজ কর্ম করতে অসুবিধা মনে হয়

খাবার খেতে

লিখতে

জামা কাপড় পরতে

কোন জিনিস ধরতে

গোসল করতে

হাটা চলা করতে

কোন জিনিস তুলতে

পায়খানায় বসতে

২২। উপরোক্ত যে কোন সমস্যার জন্য আপনি নিম্নবর্ণিত কোন চিকিৎসা নিয়েছেন?

ঔষধ

ফিজিওথেরাপি

শল্য চিকিৎসা

অন্যান্য

APPENDIX: B

Questionnaire Form

■ Socio-demographic Information ■

1. **Name:** **Subject Code:**
2. **Age:**
3. **Gender:** Male Female
4. **Address:**
5. **Contact No:**
6. **Religion:**
7. **Geographical area:** Urban Rural
8. **Educational Level:**
- Illiterate Primary Secondary
- Higher Secondary Graduate Masters
9. **Previous Occupation:**
- Govt.Employee Farmer House Wife
- Business man Day labor Others
10. **Family Members:**
11. **When you came in this Old home:**

■ Relevant information ■

This part is designed to determine the common musculoskeletal complaints among Elderly people at 'Elderly care Home'.

12. Have you ever experienced any kinds of pain or discomfort at any part of your body?

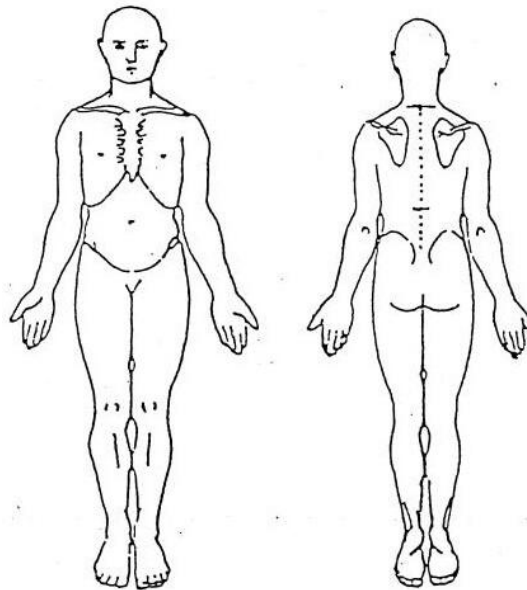
Yes **No**

(If Yes please answer the Question no 13, if No please skip the Question no 13)

13. Where have you experienced pain or discomfort at the following parts of your body?

- | | |
|--|--|
| <input type="checkbox"/> Head | <input type="checkbox"/> Neck |
| <input type="checkbox"/> Shoulder | <input type="checkbox"/> Elbow |
| <input type="checkbox"/> Wrist | <input type="checkbox"/> Finger |
| <input type="checkbox"/> Upper back | <input type="checkbox"/> Lower back |
| <input type="checkbox"/> Chest | <input type="checkbox"/> Hip |
| <input type="checkbox"/> Buttock | <input type="checkbox"/> Knee |
| <input type="checkbox"/> Ankle | <input type="checkbox"/> Toes |

14. Please indicate the areas by tick (✓) where you experience pain & discomfort



15. Have you ever experienced any limitation of joint range of movement at any part of your body?

- Yes** **No**

(If Yes please answer the Question no 16, if No please skip the Question no 16)

16. Where have you experienced limitation of joint range of movement at the following joints of your body?

- | | |
|---|--|
| <input type="checkbox"/> Neck | <input type="checkbox"/> Shoulder |
| <input type="checkbox"/> Elbow | <input type="checkbox"/> Wrist |
| <input type="checkbox"/> Fingers | <input type="checkbox"/> Lower back |
| <input type="checkbox"/> Hip | <input type="checkbox"/> Knee |
| <input type="checkbox"/> Ankle | <input type="checkbox"/> Toes |

17. Have you ever felt any weakness of muscles at the any part of your body?

Yes

No

(If Yes please answer the Question no 18, if No please skip the Question no 18)

18. Where have you felt weakness of muscles at the following parts of your body?

Neck muscles

Back Muscles

Arm muscles

Fore arm muscles

Hand muscle

Thigh muscles

Leg muscles

19. Have you any postural deformity present in your body?

Yes

No

(If Yes please answer the Question no 20, if No please skip the Question no 20)

20. What type of postural deformity present in your body?

Kyphosis

Lordosis

Scoliosis

21. Have you ever experienced any difficulty in following activities of daily living (ADL). Please tick (✓) the option.

Eating

Writing

Dressing

Gripping

Bathing

Walking

Lifting

Toileting

22. What kind of treatment have you taken for your above problems?

Medication

Physiotherapy

Surgery

Others

APPENDIX: C

গবেষণা কর্মে অংশগ্রহণের সম্মতি পত্র

(অনুগ্রহপূর্বক অংশগ্রহণকারীকে পাঠ করে শুনান)

আসসালামুআলাইকুম/নমস্কার, আমি ফারহানা হক, বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউটের (বি এইচ পি আই) অধীনে এই গবেষণাকর্ম করছি। ব্যাচেলর অফ সায়েন্স ইন ফিজিওথেরাপী কোর্সের অংশ হিসেবে এই গবেষণাটি করা হচ্ছে, যার শিরোনাম হল “বয়স্ক সেবা কেন্দ্রে বয়স্কদের অস্থি ও মাংসপেশি জনিত অভিযোগসমূহ”। আমি আপনার কাছে বয়স্কদের অস্থি ও মাংসপেশির অভিযোগসমূহ সম্পর্কিত কিছু তথ্য ও আপনার ব্যক্তিগত কিছু তথ্য জানতে চাই। আপনাকে উক্ত গবেষণা কর্মে কিছু প্রশ্নের উত্তর দিতে হবে যা এই ফরমে উল্লেখিত আছে এতে আপনার ১০-১৫ মিনিট সময় লাগবে।

আমি আপনাকে জানাতে চাই যে, এটি একটি সম্পূর্ণরূপে একাডেমিক গবেষণাকর্ম এবং আপনার প্রদত্ত তথ্য সমূহ অন্য কোন উদ্দেশ্যে ব্যবহার হবে না। গবেষক সরাসরি বয়স্কদের অস্থি ও মাংসপেশির অভিযোগসমূহের চিকিৎসার সাথে সরাসরি সম্পৃক্ত নন, সুতরাং উক্ত গবেষণা কর্মে আপনার অংশগ্রহণ আপনার বর্তমান ও ভবিষ্যত চিকিৎসাকে কোনরূপ ক্ষতি করবে না। আপনার নাম প্রকাশনায় গোপনীয় থাকবে।

এই গবেষণা কর্মে আপনার অংশগ্রহণ ঐচ্ছিক এবং গবেষণাকর্মের যে কোন সময় এতে অংশ নেয়া থেকে বিরত থাকতে পারবেন। আমি ইন্টারভিউ চলাকালীন কোন নির্দিষ্ট প্রশ্নের উত্তর না দিতে চাইলে, প্রশ্নের উত্তর না দেয়ার অধিকার আপনার আছে।

যদি উক্ত গবেষণা কর্ম বা এতে অংশগ্রহণকারী হিসেবে আপনার অধিকার সম্পর্কিত কোন কিছু জানার থাকে তবে আমার সাথে অথবা মোঃ ওবায়দুল হক, এসিসটেন্ট প্রফেসর এবং কোর্স কো-অর্ডিনেটর, ডিপার্টমেন্ট অফ ফিজিওথেরাপী, বি.এইচ.পি.আই, সি. আর.পি, সাভার, ঢাকায় এসে যোগাযোগ করতে পারবেন।

আমি শুরু করার পূর্বে কি আপনার কোন প্রশ্ন আছে?

সুতরাং, আমি কি আপনার অনুমতি সাপেক্ষে শুরু করতে পারি?

হ্যাঁ

না

অংশগ্রহণকারীর স্বাক্ষর:.....

তথ্যসংগ্রহকারীর স্বাক্ষর:.....

APPENDIX: D

CONSENT FORM

(Please read out to the participant)

Assalamualaikum/Namasker, my name is Farhana Huq, I am conducting this study for partial fulfillment of Bachelor of Science in Physiotherapy degree, titled “Common Musculoskeletal Complaints among Elderly people at Elderly care Home” from Bangladesh Health Professions Institute (BHPI), University of Dhaka. I would like to know about some personal and other related information regarding musculoskeletal complaints. You will answer some questions which are mention in this form. This will take approximately 10-15 minutes.

I would like to inform you that this is a purely academic study and will not be used for any other purpose. The researcher is not directly related with musculoskeletal area (Geriatric), so your participation in the research will have no impact on your present or future treatment in this Elderly care Home. All information provided by you will be treated as confidential and in the event of any report or publication it will be ensured that the source of information remains anonymous.

Your participation in this study is voluntary and you may withdraw yourself at any time during this study without any negative consequences. You also have the right not to answer a particular question that you don't like or do not want to answer during interview.

If you have any query about the study or your right as a participant, you may contact with me or Md. Obaidul Haque, Assistant professor & Course coordinator, Department of Physiotherapy, BHPI,CRP,Savar,Dhaka.

Do you have any questions before I start?

So may I have your consent to proceed the interview?

YES

NO

Signature of the Participant	
Signature of the interviewer	

APPENDIX: E

Date: 16.04.2011

To

The course coordinator
Department of Physiotherapy
Bangladesh Health Professions Institute (BHPI)
CRP, Savar, Dhaka-1343

Sir,

With due respect, I beg to state that I am seeking permission for the research project as a part of my 4th professional course module. My research title is “**Common Musculoskeletal Complaints among Elderly people at Elderly care Home**”. The aim of my study is to identify the common Musculoskeletal Complaints among Elderly people at Elderly care Home. Now I need your kind approval to start my research project and I would like to assure that anything of my project will not be harmful for the participants.

So I therefore pray and hope that you would be kind enough to grant me the permission for conducting the research and will help me to conduct a successful study as a part of my course.

Yours obediently,

Farhana Huq

Farhana Huq
4th professional
B.Sc.in Physiotherapy

Attachment: Proposal of Research.

*The proposal is approved and
you may proceed for data
collection.*

9/04/11
16.04.11

Md. Obaidul Haque
Assistant Prof. & Course Coordinator
Department of Physiotherapy
Bangladesh Health Professions Institute (BHPI)
CRP, Savar, Dhaka-1343

APPENDIX: F



বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই) BANGLADESH HEALTH PROFESSIONS INSTITUTE (BHPI)

(The Academic Institute of CRP)

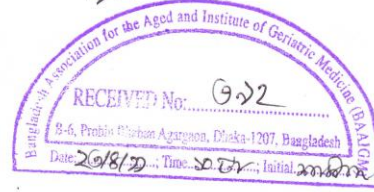
Ref:

বিএইচপিআই-৪৬২০/০৪/১১

Date: ২১-০৪-২০১১

প্রতি

সহকারী পরিচালক,
বাংলাদেশ এসোসিয়েশন ফোর দি এইজড
প্রবীণ ভবন, আগারগাঁও,
ঢাকা-১২০৭।



বিষয়ঃ রিসার্চ প্রজেক্ট (dissertation) এর জন্য আপনার প্রতিষ্ঠান সফর ও তথ্য সংগ্রহ প্রসঙ্গে।

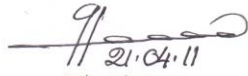
জনাব,

আপনার সদয় অবগতির জন্য জানাচ্ছি যে, পক্ষাঘাতগ্রস্থদের পুনর্বাসন কেন্দ্রে-সিআরপি'র প্রতিষ্ঠান বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই) ঢাকা বিশ্ববিদ্যালয় অনুমোদিত বিএসসি ইন ফিজিওথেরাপী কোর্স পরিচালনা করে আসছে। উক্ত কোর্সের ছাত্রছাত্রীদের কোর্স কারিকুলামের অংশ হিসাবে বিভিন্ন বিষয়ের উপর রিসার্চ ও কোর্সওয়ার্ক করা বাধ্যতামূলক।

বিএইচপিআই'র ৪র্থ বর্ষ বিএসসি ইন ফিজিওথেরাপী কোর্সের ছাত্রী **ফারহানা হক** তার রিসার্চ সংক্রান্ত কাজের তথ্য সংগ্রহের জন্য আপনার সুবিধামত সময়ে আপনার প্রতিষ্ঠানে সফর করতে আগ্রহী। তার রিসার্চ শিরোনাম **“Common musculoskeletal Complaints among Elderly People at Elderly Care Home.”**

তাই তাকে আপনার প্রতিষ্ঠান সফর এবং প্রয়োজনীয় তথ্য প্রদান সহ সার্বিক সহযোগিতা প্রদানের জন্য অনুরোধ করছি।

ধন্যবাদান্তে



মোঃ ওবায়দুল হক
সহকারী অধ্যাপক ও কোর্স-কো অর্ডিনেটর
ফিজিওথেরাপী বিভাগ
বিএইচপিআই।

APPENDIX: G



বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই) BANGLADESH HEALTH PROFESSIONS INSTITUTE (BHPI) (The Academic Institute of CRP)

Ref:

বিএইচপিআই-৪৬২৬/০৪/১১

Date : ২৭-০৪-২০১১

প্রতি
জেনারেল সেক্রেটারী,
সুবার্ভা ট্রাস্ট
১৫ হলি লেন, শ্যামলী,
ঢাকা-১২০৭।

বিষয় : রিসার্চ প্রজেক্ট (dissertation) এর জন্য আপনার প্রতিষ্ঠান সফর ও তথ্য সংগ্রহ প্রসঙ্গে।

জনাব,

আপনার সদয় অবগতির জন্য জানাচ্ছি যে, পক্ষাঘাতগ্রস্থদের পুনর্বাসন কেন্দ্রে-সিআরপি'র প্রতিষ্ঠান বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই) ঢাকা বিশ্ববিদ্যালয় অনুমোদিত বিএসসি ইন ফিজিওথেরাপী কোর্স পরিচালনা করে আসছে। উক্ত কোর্সের ছাত্রছাত্রীদের কোর্স কারিকুলামের অংশ হিসাবে বিভিন্ন বিষয়ের উপর রিসার্চ ও কোর্সওয়ার্ক করা বাধ্যতামূলক।

বিএইচপিআই'র ৪র্থ বর্ষ বিএসসি ইন ফিজিওথেরাপী কোর্সের ছাত্রী **ফারহানা হক** তার রিসার্চ সংক্রান্ত কাজের তথ্য সংগ্রহের জন্য আপনার সুবিধামত সময়ে আপনার প্রতিষ্ঠানে সফর করতে আগ্রহী। তার রিসার্চ শিরোনাম “**Common musculoskeletal Complaints among Elderly People at Elderly Care Home.**”

তাই তাকে আপনার প্রতিষ্ঠান সফর এবং প্রয়োজনীয় তথ্য প্রদান সহ সার্বিক সহযোগীতা প্রদানের জন্য অনুরোধ করছি।

ধন্যবাদান্তে

মোঃ ওবায়দুল হক
সহকারী অধ্যাপক ও কোর্স-কো অর্ডিনেটর
ফিজিওথেরাপী বিভাগ
বিএইচপিআই।