

COMMON MUSCULOSKELETAL COMPLAINTS AMONG THE HOUSEWIVES

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

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We the undersigned certify that we have carefully read and recommended to the Faculty of Medicine, University of Dhaka, for the acceptance of this dissertation entitled

**COMMON MUSCULOSKELETAL COMPLAINTS AMONG THE
HOUSEWIVES**

Submitted by **Md. Golam Kibria**, for partial fulfillment of the requirements for the degree of Bachelor of Science in Physiotherapy.

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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.

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Abbreviations

BHPI:	Bangladesh Health Professions Institute
BLS:	Bureau of Labor Statistics
BMI:	Body Mass Index
BMRC:	Bangladesh Medical Research Council
CRP:	Centre for the Rehabilitation of the Paralyzed
CTS:	Carpal Tunnel Syndrome
FHHs:	Female Headed Households
LBP:	Low Back Pain
MSD:	Musculoskeletal Disorder
WHO:	World Health Organization
WRMD:	Work Related Musculoskeletal Disorder

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Abstract

Purpose: To find out common musculoskeletal complaints among housewives. *Objective:* To determine the number of housewives affected by musculoskeletal disorder per hundred, to identify the age and percentage of housewives affected, to identify commonly involved area and structure, to explore socio-demographic factor of exposure group and to identify the presenting complaints of housewives. *Methodology:* The study was a quantitative research model in the form of a cross sectional type survey. 100 samples were selected as convenience sampling from Dhaka district Savar area. A mixed type of questionnaire was used to collect data. Descriptive statistics were used for data analysis which focused through table and bar chart. *Result:* About 84% housewives suffered from musculoskeletal complaints. And most commonly affected age band were (41-50) and (51-60) years and the percentage was 100%. Most common complaint was occasional type of pain (59%) among the participants. The most affected body part was Lower back (46%). Among the participants 21% have taken physiotherapy treatment and the prognosis of physiotherapy treatment was 100% good. *Conclusion:* It will be said that work related musculoskeletal disorders have great impact causing severe long term pain, physical disability and give rise to huge costs for the society. Housewives are vulnerable to sustaining musculoskeletal disorders during the course of their work routine.

1.1 Background

Bangladesh is one of the highest population density countries existing with more than 156 million people in the world (Indexmundy, 2008). The country's has its 64 districts. A statistic shows that on average, a district has a population of about 1.8 million, and a village 2,000. There are 59,990 villages. The number of households is about 20 million. On average, a household consists of 5.6 persons. The level of urbanization is low at 20%. This leaves 80% of the country's total population of about 120 million to live in the rural areas which primarily depend on a poorly developed agriculture for livelihood. The sex ratio is 106 males for every 100 females (People and Population in Bangladesh, 2011).

A survey report on CPD-UNFPA programmes on population and sustainable Development estimates in developing countries one of the major target groups for poverty alleviation is Female Headed Households (FHHs). Of the 1.3 billion poor people in the world about 70 percent are women. Women are considered most disadvantaged, particularly with respect to education, labour, nutrition, health etc. (Mannan, 2009).

Musculoskeletal disorders (MSD) are a significant public health problem due to their high impact on disability, personal suffering, and absence from work, disability, and their direct and indirect costs to the health care system. Musculoskeletal disorders (MSDs) comprise a major health problem for the general population, affecting their quality of life, demanding increased health care and organization. According to reports from Canada and the Netherlands, the prevalence of musculoskeletal problems range from 29% to 74.5%, respectively. However, the annual consultation rate by health care professionals of musculoskeletal problems is about 20% (Rima et al., 2005).

Many studies indicate women have a higher musculoskeletal morbidity than men. This has been found in studies of the general population as well as in different occupational groups. The reasons for these gender differences are not always obvious.

According to the traditional model of explanation, biological differences in body size, muscle strength and aerobic capacity, in combination with excessive physical demands, are sufficient causes of the observed differences (Kilbom, 1998).

World Health Organization reported that Women and men commonly perform different tasks and work in different sectors. Women are more likely to work in the informal sector, for example in domestic work and street vending. They may work from their homes. At least 100,000 women a year suffer with musculoskeletal disorders because of work (World Health Organization, 2004).

Overall development of a country depends upon the maximum utilization of her people, both men and women. In Bangladesh women comprise nearly half of the total population. But the status of women is much lower than that of men in every sphere of life (Khan and Ara, 2006).

The situation of women in rural Indian is particularly vulnerable because she plays the central role in house making. She builds the entire household but ends up neglecting her own health by not paying enough attention to herself and her fitness. In Indian setup, the Indian housewives suffer from a variety of musculoskeletal problems but fail to take any substantial treatment (Rajnand, 2010).

1.2 Justification

This study will be helpful to explore common musculoskeletal complaints among the housewives. Housewives will provide proper recommendation and preventive program regarding associated risk factor in household activities. Besides this will help to established ergonomic guidelines for space, tools, equipment, environment, jobs, tasks, work methods, work rates, and other systems involving their activities.

Knowledge about the lacking areas especially, about their posture before doing their activities will be given with this study. So investigator can help them to teach and give proper education about the posture the condition and preventive methods.

Research on this sector will help to set up prevention strategies as research is the reliable area of policy making and problem solving by discovering the magnitude and facts relating work related musculoskeletal disorder.

On the other hand this study will be helpful for professions or professionals of physiotherapy and with this connection other professionals will have a chance to gather their knowledge from this study. As well as students of BHPI will be benefited also.

Research on this area can established the skills of physiotherapist and be a base for spreading the profession in new dimension in Bangladesh.

1.3 Research Question

What are the Common musculoskeletal complaints among the housewives?

1.4 Objectives

1.4.1 General objective

- To explore Common musculoskeletal complaints among the housewives

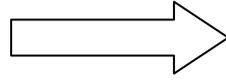
1.4.2 Specific objectives

- To compute the number of housewives affected by musculoskeletal disorder per hundred
- To identify the age and percentage of housewives are affected
- To identify commonly involved area and structure
- To explore socio-demographic factor of exposure group
- To identify the presenting complaints of housewives

1.5 List of variables

Independent variables:

- Socio- demographic variables
- Types of work
- Common complaints
- Involved area and structure



Dependent variable:

Musculoskeletal complaints

1.6 Operational definition

- **Housewives:** woman managing household activities
- **Musculoskeletal Disorder:** Musculoskeletal disorders (MSDs) defined as injuries and disorders to muscles, nerves, tendons, ligaments, joints, cartilage, and spinal discs. MSDs do not include injuries resulting from slips, trips, falls, or similar accidents.

Musculoskeletal disorder

As early as the 18th Century, musculoskeletal problems were clinically described in terms of work-relatedness, and a number of disorders—bricklayer’s shoulder, stitcher’s wrist, gamekeeper’s thumb, carpet-layer’s, and housemaid’s knee (Lipscomb, 2008).

Musculoskeletal disorders, which are often soft-tissue injuries, occur when there is a mismatch between the physical requirements of the job and the physical capacity of the human body (Safe Computing Tips, 2011).

Musculoskeletal disorders are sometimes called ergonomic injuries and illnesses. Ergonomics is the study of the worker's interaction with tools, equipment, environment, jobs, tasks, work methods, work rates, and other systems. The federal Bureau of Labor Statistics (BLS) has defined musculoskeletal disorders (MSDs) as injuries and disorders to muscles, nerves, tendons, ligaments, joints, cartilage, and spinal discs. MSDs do not include injuries resulting from slips, trips, falls, or similar accidents. Examples of MSDs include many kinds of sprain and strain, carpal tunnel syndrome, tendinitis, sciatica, and low back pain. MSDs result from bodily reactions due to bending, climbing, crawling, reaching, or twisting, and from overexertion and repetitive motion (Maier and Ross-Mota, 2000).

Musculoskeletal disorders, which encompass a range of conditions, including repetitive strain injuries (RSI) or cumulative trauma disorders (or CTDs), and chronic back strain, have been reported to account for a significant amount of sickness absence in a number of the developed countries (Chan, 2008).

Work related musculoskeletal disorder (WRMSD)

Work related musculoskeletal disorders are group of painful disorders of muscles, tendons and nerves. Work activities, which are frequent and repetitive or activities with awkward postures cause these disorders, which may be painful during work or at rest. In the home and farm where women performs tasks while sitting, standing, bending, twisting, awkward posture, duration of work and inadequate rest pause are associated with the occurrence of serious musculoskeletal problems and musculoskeletal disorders (Suthar and Kaushik, 2011). Work-related musculoskeletal disorders (WMSD) are syndromes characterized by discomfort, impairment, disability, or persistent pains in joints, muscles, tendons or other soft tissues. They are the most common self-reported, work-related illness in many workplaces (Putz and Anderson, 1988).

Duration to develop WRMD

This is difficult to predict to measure the time to develop a WRMD. An employee may notice symptoms such as muscle, joint or tendon soreness within the first several weeks of a new job. Workers with pre- existing medical problems may be at higher risk of developing symptoms those healthy workers. Some disorders may take several years before symptoms are identified. Some employees may never develop a WRMD (Department of labor and industries, 1997).

The length of daily working hours as a risk factor for the development of musculoskeletal complains was studied, it was found that some sample worked 8 hours per day and few were worked 5 hours per day. Working part time was shown to postpone the occurrence of sick leave due to musculoskeletal disorders by approximately half a year, there was no lasting effect on the reduction in working hours on sick leave due to shoulder- neck complaints, but a reduction in low back complaints was identified. It is suggested that any reorganization of work activities to counteract musculoskeletal injuries from repetitive work should aim to break up the muscular activity patterns over time periods considerably shorter than the 5 hours working per day of the part time workers in the present study (Meligrsted and Westgaard, 1991).

Characteristics of Work related musculoskeletal disorders (WMSDs)

Work related musculoskeletal injuries can take different forms. The onset and development these injuries of is still not well known. Many theories some complementary and other contradictory have attempted to explain the phenomenon and it is clear that the issue is still not fully understood. Despite the diversity of applications and mechanism involved, WMSDs show a certain number of similar characteristics (Simoneau, St-vincent and chicoine, 1996).

- WMSDs result from overuse
- WMSDs develop gradually
- WMSDs prevention can be very effective
- WMSDs have multiple causes

WMSDs result from overuse

Although the onset mechanisms are not clearly established, it is generally agreed that the injuries result from overuse, beyond the body's recovery capacity. WMSDs occur because a structure is abused repetitively and is made to endure a work load that it cannot tolerate without negative consequences (Simoneau, St-vincent and chicoine, 1996).

WMSDs develop gradually

WMSDs develop over time the process evolves gradually with repeated overuse with and insufficient recovery. The process may vary from well set in surreptitiously, with no apparent symptoms only to one day appear suddenly and develop rapidly. More often slight discomfort are felt, which worsen gradually until they lead to work stoppage. The disorder can only take few days to develop. But more often it stretches, out for weeks, months and even years (Simoneau, St-vincent and chicoine 1996).

WMSDs prevention can be very effective

WMSDs do not constitute a disease that can be contracted, but a process that develops over time. As WMSDs develop gradually therefore action can be taken before the process gets too far. If the overuse is stopped in time, the body can recover and the ailment can recede without leaving any trace. Complete recovery can possible, and

prevention can be termed effective if it occurs early (Simoneau, St-vincent and chicoine, 1996).

WMSDs have multiple causes

The starting point of WMSDs is overuse. But this overload generally steams from a combination of factors and not from one single cause. Be it repetition, posture or effort, no single risk factor is essential in and of itself. A very demanding effort made in a particularly bad posture can suffice to create musculoskeletal problems, even if the rate of repetition is very low. Conversely a less demanding tasks performed in a more or less adequate posture can cause damage if it is repeated thousand of times per day. Because of this multiple causes, prevention must often rely on a combination of solutions based on a good knowledge of the situation. And because the situation can be so diverse, a universal solution is also impossible (Simoneau, St-vincent and chicoine 1996).

Factors that contribute to WRMDs

Four different groups of factors may potentially contribute to MSDs:

- Physical or biomechanical work-related factors
- Organizational or psychosocial work-related factors
- Individual or personal factors
- Factors relating to social content (European Agency for Safety and Health at Work, 1993).

Physical factors

Applying manual force loads the muscles and tendons of the arms .Repetitive work using the same muscles and tendons may be responsible for fatigue and injuries. In Awkward postures the joints are more susceptible to injuries and the muscles have less capacity for exerting force. Expose the hands to vibration and contribute to potential disruption to the blood circulation in the fingers and to the nerves of the hand and arm. Workers who have long-term static postures this type of repeated static posture can give rise to injuries, particularly when repeated for months or years. Prolonged standing may result in fatigue and discomfort in the legs. It can lead to the development of musculoskeletal disorders (e.g. painful feet and other foot problems)

and varicose veins. Prolonged sitting requires the muscles to hold the trunk, neck and shoulders in a fixed position. This squeezes the blood vessels in the muscles, reducing the blood supply. An insufficient blood supply accelerates fatigue and makes the muscles prone to injury. Manual handling refers to the transfer, pushing, pulling and carrying of loads by one or more employees (European Agency for Safety and Health at Work, 1993).

Organizational and psychosocial factors

Daily exposure to physical risk factors and insufficient rest or recovery time are among the principal organizational factors that can lead to MSDs.

Mental strain can cause muscular tension, and increase existing physical strain. Work conditions that may increase mental strain include Psychologically demanding activities, in which the workers are exposed to high levels of work stress, work pressure and mental demands, as a consequence for example of tight deadlines and low levels of autonomy and Activities in which there is little support from colleagues, supervisors and managers (European Agency for Safety and Health at Work, 1993).

Individual factors

Individuals differ in their susceptibility to MSDs. Factors such as prior medical history, physical capacity and age are very important. Obesity, pregnancy, rheumatoid arthritis, acute trauma and endocrinological disorders are other examples of individual non-occupational factors that may affect the occurrence of MSDs (European Agency for Safety and Health at Work, 1993).

Factors relating to social context

Social context provides some important non-work risk factors relating to MSDs. Some types of sport, leisure activities and housekeeping work at home can all increase susceptibility to MSDs. The relation between work activities and a particular musculoskeletal disorder is multi-factorial. This means that when different physical factors are present, coexisting with organizational factors (and also individual and social factors), a work situation may arise in which there is a high risk of developing MSDs (European Agency for Safety and Health at Work, 1993).

Commonly affected area and structure of work related musculoskeletal disorder

- Upper limb

Shoulder Musculoskeletal Disorders

Shoulder MSDs and their relationship to work risk factors have been reviewed by several authors attributed a majority of shoulder problems occurring in a variety of occupations to workplace exposure. Kuorinka and Forcier (1995) looked specifically at shoulder tendinitis and stated that the epidemiologic literature is “most convincing” regarding work-relatedness, especially showing an increased risk for overhead and repetitive work. Shoulder as work activities that involved cyclical flexion, extension, abduction, or rotation of the shoulder joint. Repetitiveness was defined in four different ways:

- (1) The observed frequency of movements past pre-defined angles of shoulder flexion or abduction.
- (2) The number of pieces handled per time unit.
- (3) Short cycle time or repeated tasks within cycle
- (4) A descriptive characterization of repetitive work or repetitive arm movements.

Some of the studies that examined repetition as a risk factor for shoulder MSDs had several concurrent or interacting physical work load factors (Sakakibara et al., 1987). Studies that examined force or forceful work or heavy loads to the shoulder, or described exposure as strenuous work involving the shoulder abduction, flexion, extension, or rotation that could generate loads to the shoulder region were also included (Toomingas, 1992). For the shoulder, a relaxed, neutral posture is one in which the arm hangs straight down by the side of the upper body. In one study, postures in which the included angle was equal to or greater than 45 degrees required substantial supraspinatus muscle activity, while deltoid muscle activity underwent a pronounced increase as the angle of shoulder flexion or abduction increased from 45 to 90 degrees. As the arm is elevated, the space between the humeral head and the acromion narrows such that mechanical pressure on the supraspinatus tendon is greatest between 60 and 120 degrees of arm elevation. While there is a continuum of severity from an included angle of 30 degrees to a maximally abducted arm, postures

with shoulder abduction or flexion past 60 degrees are considered awkward posture. In compare, when a joint is in an awkward posture, the muscles have less strength. So if they have to produce the same amount of force, the muscles will be working closer to their maximum level. Fatigue will occur more quickly, And an awkward posture lead to MSD (National institute of public safety and health, 1997).

Elbow Musculoskeletal Disorders

Several studies addressed that the physical factor of repetition and its relation to elbow MSDs, Studies usually defined repetition, or repetitive work, for the elbow as work activities that involved (1) cyclical flexion and extension of the elbow or (2) cyclical pronation, supination, extension, and flexion of the wrist that generates loads to the elbow or forearm region. Most of the studies that examined repetition as a risk factor for elbow MSDs, had several concurrent or interacting physical work load factors. For review it is included in a study that is examined force or forceful work or heavy loads to the elbow or described exposure as strenuous work involving the forearm extensors or flexors, which could generate loads to the elbow or forearm region. Most of the studies that examined force or forceful work as a risk factor for elbow MSDs, had several concurrent or interacting physical workload factors (Mintz and Fraga, 1973).

Studies that addressed posture or examined workers in those activities or occupations that require repeated pronation and supination, flexion or extension of the wrist, either singly or in combination with extension and flexion of the elbow have chance to being attacked by MSDs (National institute of public safety and health, 1997).

Wrist Musculoskeletal Disorders

Nineteen studies reported on the results of the association between repetition and Carpal Tunnel Syndrome (CTS).

Several studies quantitatively measured or observed and categorized repetitive hand and wrist movements in terms of:

- a) The frequency or duration of tasks pertaining to the hand or wrist
- b) The ratio of work-time to recovery time
- c) The percentage of the workday spent on repetitive activities
- d) The quantity of work performed in a given time (National institute of public safety and health, 1997)

For review, it's identified in studies that repetition or repetitive work for the hand and wrist for CTS as cyclical or repetitive work activities that involved either repetitive Hand or finger or wrist movements such as hand gripping or wrist extension or flexion, ulnar or radial deviation, and supination or pronation may cause the MSDs (Stevens et al., 1992).

Repetitive work is frequently performed in combination with external forces, and much of the epidemiologic literature has combined these two factors when determining association with CTS. There is evidence that force alone is associated with CTS. There is strong evidence that a combination of forceful hand/wrist exertion and repetitiveness are associated with CTS (Moore, 1992).

It is hypothesized that extreme or awkward postures increase the required force necessary to complete a task. Posture may increase or decrease forceful effort. It's impact on MSDs may not be accurately reflected in measurement of posture alone reasons that the variable "extreme posture" has not been measured or analyzed in many epidemiologic studies are: 1) because of the extreme variability of postures used in different jobs as well as the extreme variability of postures between workers performing the same job tasks, 2) because several studies have taken into account the effects of posture when determining other measured variables such as force 3) stature often has a major impact on postures assumed by individual workers during job activities (National institute of public safety and health, 1997).

Neck Musculoskeletal Disorders

For review of the neck or shoulder region, epidemiologic studies that examined repetition or repetitive work activities and MSDs. Studies generally address repetition as cyclical work activities that involved either: (1) repetitive neck movements (e.g., the frequency of different head positions (2) repeated arm or shoulder motions that generate loads to the neck or shoulder area (e.g. trapezius muscle). Most of the studies that examined repetition or repetitive work as a potential risk factor for neck or neck or shoulder MSDs had several concurrent or interacting physical workplace factors that were being evaluated. For review, it's included studies that examined force or forceful work or heavy loads to the neck and neck or shoulder, or described exposure as strenuous work involving the upper extremity that generates loads to the trapezius muscles. Most of the studies that examined force or forceful work as a risk factor for neck or shoulder had several concurrent or interacting physical work load factors.

Neck or head postures, adverse or extreme head or neck postures, or static postures of the head and neck can caused work related musculoskeletal disorder (National institute of public safety and health, 1997).

Back Musculoskeletal Disorders

Heavy physical work has been defined as work that has high energy demands or requires some measure of physical strength. Some biomechanical studies interpret heavy work as jobs that impose large compressive forces on the spine. Heavy physical work appeared to include other potential risk factors for back disorder, particularly lifting and awkward postures. Lifting is defined as moving or bringing something from a lower level to a higher one. The concept encompasses stresses resulting from work done in transferring objects from one plane to another as well as the effects of varying techniques of patient handling and transfer. Forceful movements include movement of objects in other ways, such as pulling, pushing, or other efforts. Several studies included in this review used indices of physical workload that combined lifting or forceful movements with other work-related risk factors (particularly heavy physical work and awkward postures). Some studies had definitions for lifting which include criteria for number of lifts per day or average amount of weight lifted (Nathan, 1992).

Bending is defined as flexion of the trunk, usually in the forward or lateral direction. Twisting refers to trunk rotation or torsion. Awkward postures include non-neutral trunk postures (related to bending and twisting) in extreme positions or at extreme angles. Risk is likely related to speed or changes and degree or deviation from non-neutral position (Pope et al., 1984). Static work postures include isometric positions where very little movement occurs, along with cramped or inactive postures that cause static loading on the muscles. In the studies reviewed, these included prolonged standing or sitting and sedentary work. In many cases, the exposure was defined subjectively and in combination with other work-related risk factors (National institute of public safety and health, 1997)

Individual Factors Associated with Work-Related Musculoskeletal Disorders (MSDs)

Age

The prevalence of MSDs increases as people enter their working years. By the age of 35, most people have had their first episode of back pain. Musculoskeletal impairments are among the most prevalent and symptomatic health problems of middle and old age (Bruce and Bernard, 1997).

Gender

Some studies have found a higher prevalence of some MSDs in women. A male to female ratio of 1:3 was described for carpal tunnel syndrome (CTS) in a population study in which occupation was not evaluated (Bruce and Bernard, 1997).

Smoking

Several papers have presented evidence that a positive smoking history is associated with low back pain, sciatica, or intervertebral herniated disc (Bruce and Bernard, 1997).

Strength

Some epidemiologic support exists for the relationship between back injury and a mismatch of physical strength and job tasks (Bruce and Bernard, 1997).

Anthropometry

Weight, height, body mass index (BMI), and obesity have all been identified in studies as potential risk factors for certain MSDs, especially CTS and lumbar disc herniation (Bruce and Bernard, 1997).

Physical capacity

Presence of systemic illness like

Diabetes Mellitus, Thyroid problems, Kidney problems (Renal insufficiency, failure, stones, etc.), Arthritis, High Blood Pressure, Gout and Reynaud's phenomenon (European Agency for Safety and Health at Work, 1993).

Signs and symptoms of MSD

Pain, Numbness, Tingling, Burning, Cramping, Stiffness, Decreased range of motion, Deformity, Decreased grip strength and Loss of muscle function (Office ergonomics, 2010).

Common work related musculoskeletal disorder

Tendinitis

Inflammation or irritation of a tendon, from repeated stressful movement's .Occurs most often in the flexor and extensor tendons of the fingers, thumb, forearm, elbow, shoulder or wrist (Bellinger, 2010).

Carpal Tunnel syndrome

Compression of the median nerve in the carpal tunnel of the wrist is caused by repeated bending and twisting of the wrist, especially when force is applied (Bellinger, 2010).

Tensoynovitis

Inflammation of tendons and or tendon sheaths because of repetitive movements, often non-strenuous (Safety & Health Assessment & Research for Prevention, 2001).

Tension neck syndrome

Irritation of the levator scapulae and trapezium, all muscles of the neck. Causes tightening of the muscles in the neck. Neck stiffness as well as headaches also presents. Headaches are often described as a pressure sensation around the head. Pain may build and intensify at the end of day (Safety & Health Assessment & Research for Prevention, 2001).

Trigger finger

Inflammation of tendons and tendon sheaths of the fingers. Due to repetitive movements and gripping too long, too tightly, or too frequently. Characterized by inability to move fingers smoothly, with or without pain (United Food and Commercial Workers International Union, 2008).

Bursitis

Inflammation of the bursa (sack-like cavity) between skin and bone, or bone and tendon. Can occur at the knee, elbow, or shoulder due to kneeling, pressure at the elbow repetitive shoulder movements. Characterized by pain and swelling at the site of the injury (Safety & Health Assessment & Research for Prevention, 2001).

Myofascial pain in the neck and upper back

Heavy feeling, aching pain, stiffness in upper back and neck, due to overhead activity of arms in extended position (Safety & Health Assessment & Research for Prevention, 2001).

Cubital Tunnel Syndrome (Elbow or Ring and Little Fingers)

Compression of the ulnar nerve below the notch of the elbow. Often occurs in combination with medial epicondylitis. Excessive flexion of the elbow creating tension on the nerve (Bellingar, 2010).

DeQuervain's Disease

DeQuervain's disease is one of the most common tendon disorders of the hand. It develops when the tendons on the side of the wrist and at the base of the thumb become irritated from repetitive bending of the wrist. DeQuervain's Disease can usually be diagnosed by using a simple test this involves closing the fist around the thumb and bending the wrist towards the little finger. A person with this disorder will feel acute pain or tensing of the tendons on the side of the wrist (Safety & Health Assessment & Research for Prevention, 2001).

Rotator cuff tendonitis

Rotator cuff tendinitis is the most common tendon disorder of the shoulder. Shoulder pain, Stiffness and also problem in reaching behind on upper back (Safety & Health Assessment & Research for Prevention, 2001).

Thoracic Outlet Syndrome

This term issued to describe the condition caused by the pinching or squeezing of the nerves and blood vessels between the neck and shoulder. This can happen when work tasks require frequent reaching above the shoulder (Safety & Health Assessment & Research for Prevention, 2001).

Chronic low back pain

Pain in the low back, often referring into the hip, buttock or one leg. The cause may be muscle strains or trigger points, instability due to weak postural muscles, hypomobile spinal facet joints, or degeneration or herniation of spinal disks (Quittan, 2002).

Role of physiotherapy to decrease work related musculoskeletal disorder

Physical therapy can reduce the recurrence of back pain and neck-shoulder pain. In order to be effective, however, the exercise should include vigorous exercise and be repeated at least three times a week (Podniece, 2008).

Physical Therapist assesses an individual's physical ability to do a specific job or activity and aids in developing a safe return to work program (Occupational health solution). All exercises should be performed slowly and comfortably to avoid injury. When performing strengthening and flexibility exercises, remember to breathe naturally and do not hold your breath; exhale during exertion and inhale during relaxation. A program of strengthening, stretching, and aerobic exercises will improve your overall fitness level. Research has shown that people who are physically fit are more resistant to back injuries and pain and recover quicker when they do have injuries than those who are less physically fit (Joel and Press, 2008).

Strengthening Exercise

Strengthening exercises help increase muscle tone and improve the quality of muscles. Muscle strength and endurance provide energy and a feeling of wellness to help you perform daily, routine activities. Adequate core strength that comes from abdominal and back muscles helps stabilize the spine, allows proper spinal movement, and makes it easier to maintain correct posture. Strong hip and leg muscles are important to perform proper lifting techniques and body mechanics (Joel and Press, 2008).

Stretching or Flexibility Exercise

Flexibility is the ability to move arms and legs through their full range of motion. Stretching will help improve your flexibility. Adequate flexibility of tissues around the spine and pelvis allows full, normal spinal movement, prevents abnormal force on the joints and decreases the possibility of injury. Stretching also prepares muscles for activity; stretching should be done both before and after each vigorous workout to prevent muscle strain and soreness and to help avoid injuries. When performing flexibility exercises, stretch as far as you can and hold the stretch for 10 seconds and then ease back. Each stretching exercise should be performed slowly in both directions, with no sudden jerking or bouncing. Bouncing is more likely to injure or strain a muscle or joint (Joel and Press, 2008).

Patient education - Ergonomic recommendations for minimizing the risks of back injuries focus on improving working posture and equipment design. These include:

Change Posture - Alternate between sitting and standing to reduce postural fatigue and maximize postural variety, which helps to reduce static muscle fatigue (Joel and Press, 2008).

Use Support - When sitting or standing, don't lean forwards or stoop in an unsupported posture for prolonged periods. If you are sitting, sit up straight or recline slightly in a chair with good back support, and use a good footrest if necessary. If you are standing for prolonged periods try to find something to help you lean against (Joel and Press, 2008).

Safe reaching - Avoid having to reach awkwardly to equipment and work close to the patient. Keep the items used most frequently within a distance of about 20 inches (50 cm). Use assistants to help move equipment into this zone (Joel and Press, 2008).

Normal arm posture - Keep elbows and upper arms close to the body and don't raise and tense the shoulders when working. Also, ensure that hand postures are not deviated because this could lead to wrist problems (Joel and Press, 2008).

Maintain Neutral Postures- The optimal design of work provides tasks that can be performed while maintaining a neutral range of postures. A neutral range of postures is not just one posture or position of a joint, but includes a range of postures where the muscles are at or near their resting length, and the joint is naturally aligned. Neutral ranges of postures are usually the most comfortable positions for our joints and can reduce the risk of injury. For many joints, the neutral range of postures occurs around the mid point of motion for that joint.

Descriptions of these midpoints for the major body joints are shown below-

Joints	Descriptions of Midpoints for Neutral Range of Postures
Head and Neck	Level, or bent slightly forward, forward facing, balanced and in-line with torso
Hands, Wrists &Forearms	All are straight and in-line
Elbow	Close to the body and bent 90 to 120 degrees
Shoulders	Relaxed and upper arms hang normally at the side of the body
Thighs and Hips	Parallel to the floor when sitting; perpendicular to the floor when standing
Knees	Same height as the hips with feet slightly forward when sitting; aligned with hips and ankles when standing
Back	Vertical or leaning back slightly with lumbar support when sitting; vertical with an S-curve when standing

Table - 1: Descriptions of Midpoints for Neutral Range of Postures
(Ergonomics Risk Factors, 2007)

Use Comfortable Equipment - Use equipment that isn't too heavy, that can be used without awkward upper body posture and that feels comfortable to use. Ergonomically designed equipment helps to minimize stresses on the upper extremities and the back (Alan, 2008).

Manage Time - Avoid long appointments where possible, or intersperse these with frequent short rest breaks in which you change posture and relax the upper extremities (Alan, 2008).

If the site of job involves spending long periods of time sitting, focus on correcting postural imbalances. Sit straighter, gently draw those shoulders back, stand up and walk around more and seek advice on work ergonomics. Stretch your tight neck, shoulder, chest, lower back and leg (hip flexor and hamstring) muscles. Strengthen the weakened middle and lower trapezius and activate deep abdominal muscles. Avoid traditional sit-ups, as they may shorten hip flexors and perpetuate postural problems. Weight training should focus on balance and symmetry. Left to right, front to back and upper body to lower body, deep and superficial. Our body is made up of many tissues which act synergistically to balance us. Don't worsen this by strengthening already shortened muscles, such as the pectorals, possibly making lengthened muscles, like trapezoids, weaker (Matthew, 1999).

Methodology

This section outlines the method of the study design by the researcher to meet the study aim and objectives.

3.1 Study design

This study aimed to find out the possible work related musculoskeletal disorders among the housewives in Bangladesh. For this reason the investigator used a quantitative research model in the form of a cross sectional type survey in design. The investigator chose the design in quantitative research method because in this way investigator was able to use a large number of participants and therefore collected the data objectively through this way data was reduced to numbers for statistical analysis in order to draw conclusion (Hicks, 2000).

The study was Cross sectional survey in design. Cross sectional study is one of the forms of observational study (Park, 2007). It is one of the most commonly used survey research design (Zechmeister, 2003).

3.2 Study site and area

Data collected from the housewives of Dhaka District, Savar region because researcher will get participants easily, quickly and cheaply. As this is a survey on work related musculoskeletal disorders among the housewives in Bangladesh, so study area was musculoskeletal area.

3.3 Study population and sampling

Study populations were all housewives in Bangladesh.

During the study researcher will use convenience sampling. This method of sampling also referred as accidental, volunteer or opportunistic sampling. Researcher made up inclusion and exclusion criteria and select those individual meets inclusion criteria voluntarily in the study.

3.4 Sample size

The actual sample size for this study is calculated 365.

Formula:

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

Here,

$$Z(1 - \frac{\alpha}{2}) = 1.96$$

$$P = 0.61$$

$$q = 1 - p$$

$$d = 0.05$$

But for survey research it is better to get as many participants as possible. As this project is in course curriculum, there are verities of limitation for like as limited set of time frame. The number of sample of this study is 100.

3.5 Sample selection criteria

3.5.1 Inclusion criteria

- Age level should be under 20-60 years. As this is the working age.
- Participants having all kinds of musculoskeletal complaints.
- Housewives having maid servant or not, both are selected.
- Willingly to participate in the research.

3.5.2 Exclusion criteria

- Age level below 20 years and above 60 years will be exclude.
- Other disability with musculoskeletal complain.
- Pregnant housewives.
- Those who will not fulfill the criteria will be excluded.

3.6 Method of data collection

In this study data were collected by both structured and semi structured mixed type questionnaire. Mixed type questionnaire include both open and close ended questions. Following that the investigator was gone to housewives to take permission if they are interested in this study or not. Firstly, the investigator introduced himself and the research project as well as its purpose. Then investigator met with individual subject to find out if they were interested in

participating. For data collection, Bengali version of question was used because of participant easy understanding. Consent form and additional information will be provided with the questionnaire. After that a face to face interview was taken.

3.7 Data collection materials

The investigator provide semi-structured questionnaire for data collection. Questions were set in a logical order. Bengali version of question was used because of participant easy understanding. Also papers, pen, pen drive, clip board and consent forms were used for data gathering.

3.8 Data analysis

Data analysis is a crucial part of any study or research. There are many statistical methods of the data analysis but researcher has used Descriptive statistical analysis by using statistical package for social services (SPSS-16) sixteen version. This has published by Quick Book premier accounted company. Special findings were described through bar graph and table.

3.9 Informed consent

For this study researcher has taken permission during interview from every single participant with signature on a written consent form of the participants who were interested. The participants were informed about their role in the research process. The researcher had informed the participant about the aim of the research and procedures involved in the study. They had also informed that if they wish they were free to withdraw from the study any time. The researcher had also mentioned the participants that the information provided by the particular might be published but their name and address would not be used in research project. The study information only discusses with supervisor but this would not share with any other person. These materials were disposed off after completion of the research project. The study results might not have any direct effects on them but the Physiotherapy professional may be benefited from the study in future. Participants were also informed that they would not get any harmful things from the study.

3.10 Ethical consideration

At first to conduct this study, the research project was submitted to the Physiotherapy Department, Bangladesh Health Professions Institute and obtained approval. During the course of this study, interested subjects were given consent forms and the purpose of the research and the consent form were explained to them verbally in Bengali. The participants were informed that their participation would be fully voluntary and they had the right to withdraw or discontinue from the research at any time without any hesitation or risk. They were also informed that confidentiality would be maintained. Information might be published in any presentations or writing, but their personal identity such as their name and address will not be mention in the study. The participants were informed that the data was collected by written questionnaire. The supervisor also checked the consent form and questionnaire. The WHO and BMRC guidelines were followed.

3.11 Limitation of the study

Despite the researcher best efforts with research, the present study was not completely free from all limitation and impediments. Limitations are:

- Sample size was small to generalize the study result.
- This study was done in a short period, so all factors in relation to housewives musculoskeletal problem may not be highlighted.
- Study was conducted in a District of Bangladesh. So this study result would not be generalized for whole Bangladesh.
- To identify musculoskeletal problem laboratory diagnosis was not available to all participants. This can be limitation of this study.
- Time and resources are limited have a great deal of impact on the study.

This was a cross sectional study. The main objective of the study was to explore Common musculoskeletal complaints among the housewives. Convenience sampling was done to select samples. Total 100 data were collected from the housewives of Dhaka district, Savar area. Data were numerically coded and captured in Microsoft Excel, using an SPSS 16.0 version software program. The investigator collected the descriptive data and calculated as percentages and presented by using bar charts.

4.1 Distribution of housewives having musculoskeletal problem

Among the participants (N=100) about 84% of housewife suffering from musculoskeletal problems and 16% not having musculoskeletal problems. The Distribution of housewives having musculoskeletal problem are shown in (Figure-1).

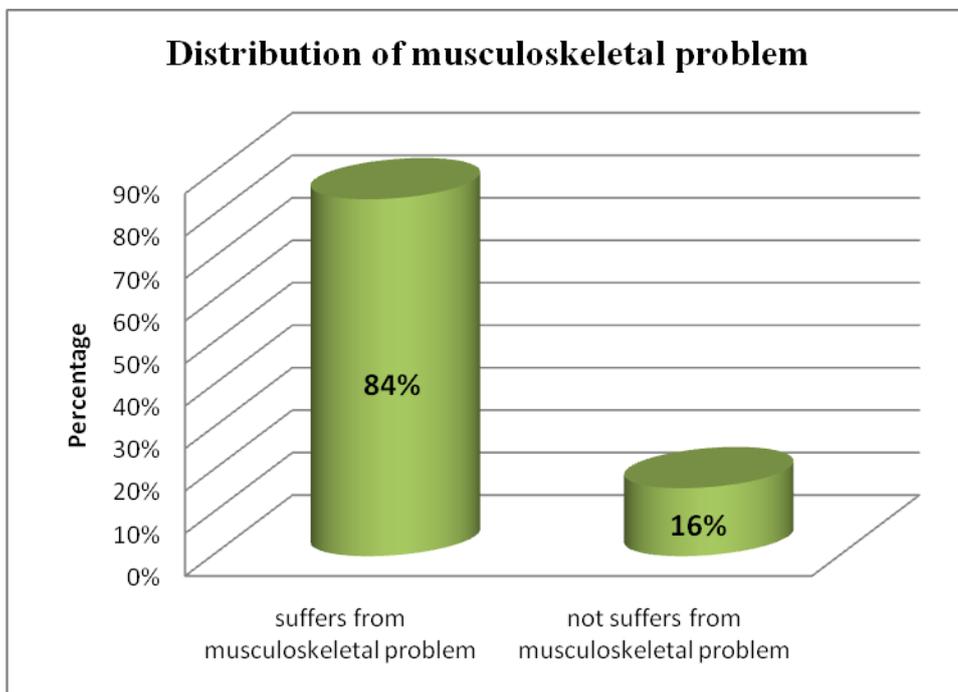


Figure – 1: Distribution of musculoskeletal problem.

4.2 Age of the respondents

A total of 100 housewives were participants. The mean age of the respondents (N=100) was 33.36 years (SD: 11.504, Range: 38). The distribution of the subjects into the age band was as follows: 20-30 years (52%), 31-40 years (25%), 41-50 years (13%), and 51-60 years (10%). Age of the respondents is shown in (Figure-2).

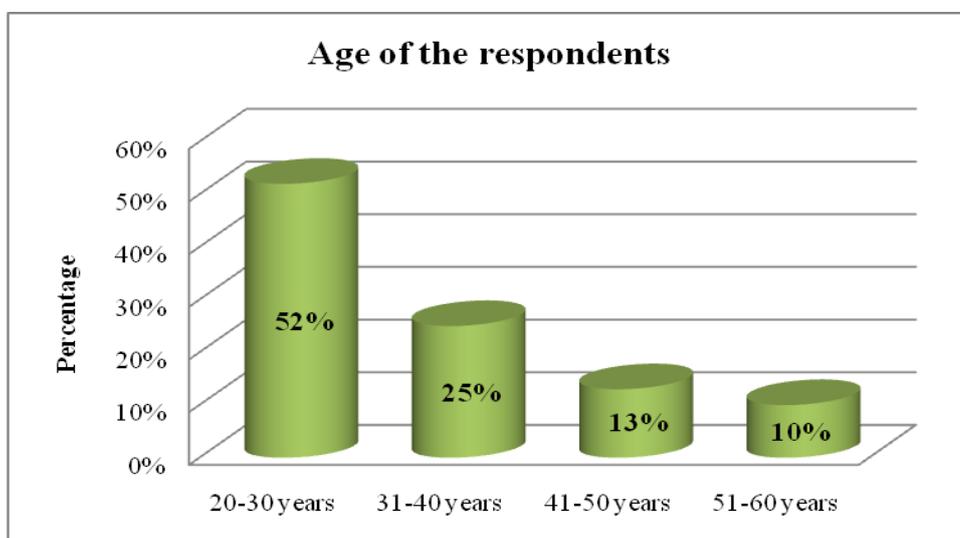


Figure – 2: Age band of the housewives.

Among the participants most commonly affected age band were (41-50) and (51-60) years and the percentage was 100%. It was shown in (Table-2).

Age of the respondent	Musculoskeletal complaints		Total
	Yes	No	
20-30	39	13	52
31-40	22	3	25
41-50	13	0	13
51-60	10	0	10
Total	84	16	100

Table - 2: Participants affected by musculoskeletal disorder according to their age.

4.3 Working hours in a day

Among the participants (n=100), 29% housewives works (1-3) hours, 52% housewives works (4-6) hours, 19% housewives works more than 6 hours. Working hours in a day are shown in (Figure-3).

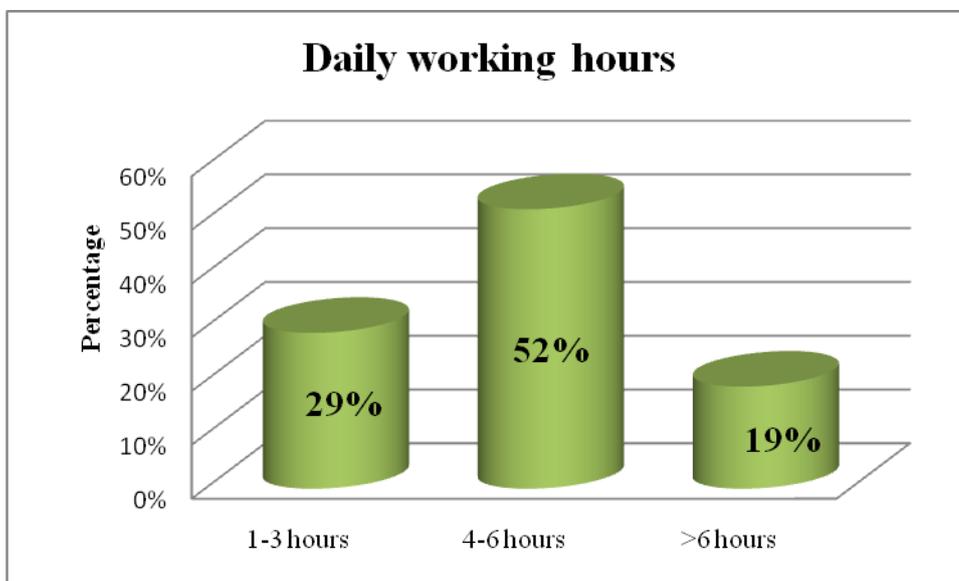


Figure - 3: Daily working hours of housewives.

Among the housewives who work more than 6 hours in a day are 100% affected by musculoskeletal disorder. That is shown in (table-3).

Working hours in a day	Musculoskeletal complaints		Total
	Yes	No	
1-3	21	8	29
4-6	44	8	52
>6	19	0	19
Total	84	16	100

Table – 3: Daily working hours associated with musculoskeletal complaints.

4.4 Type of work housewives have to do during household activities

Among the housewives 89% do sweeping, 91% do washing, 100% do cooking, 87% do wringing, 84% do drying, 11% do ironing and 40% do market shopping. Types of work housewives have to do are shown (Figure-4).

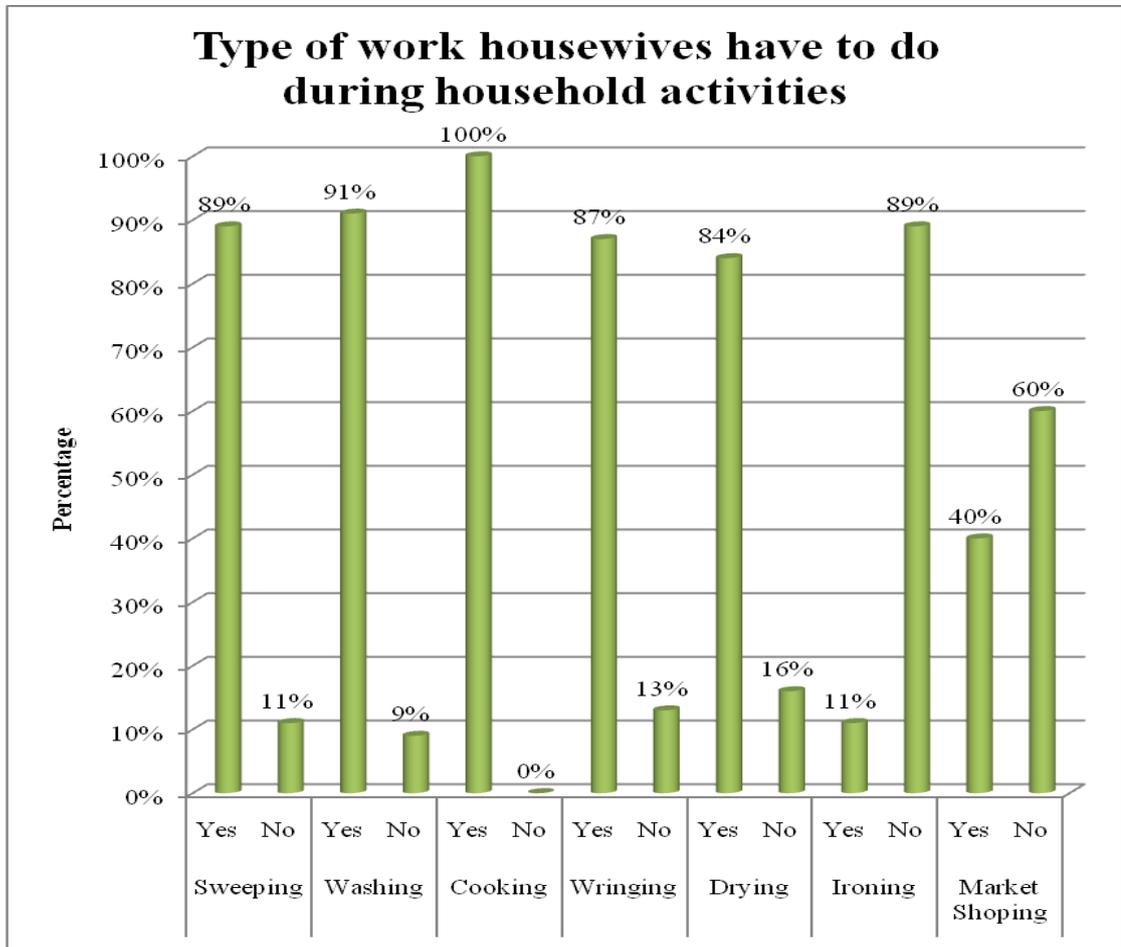


Figure - 4: Type of work housewives have to do during household activities.

4.5 Distribution of housewives having domestic help

During household activities about 62% of housewife having domestic help and 38% do not having domestic help. The distributions of housewives having domestic help are shown in (Figure-5).

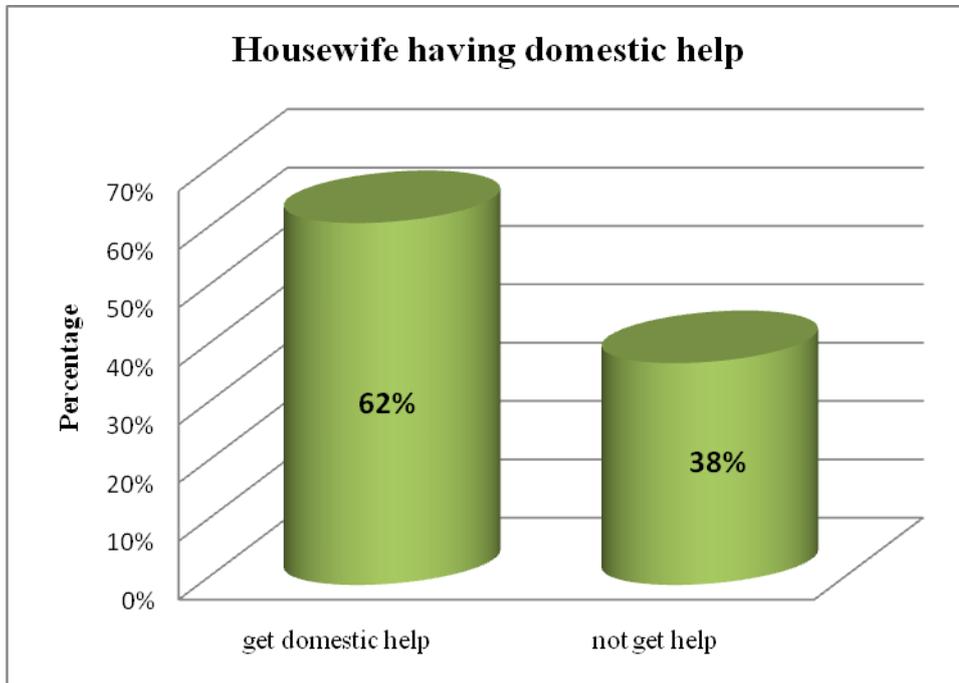


Figure -5: housewives having domestic help.

4.6 Type of work housewives gets domestic help during household activities

Among the housewives 51% gets help on sweeping, 45% on washing, 41% on cooking, 45% on wringing, 46% on drying, 5% on ironing and 41% on market shopping. Type of work housewives gets domestic help are shown (Figure-6).

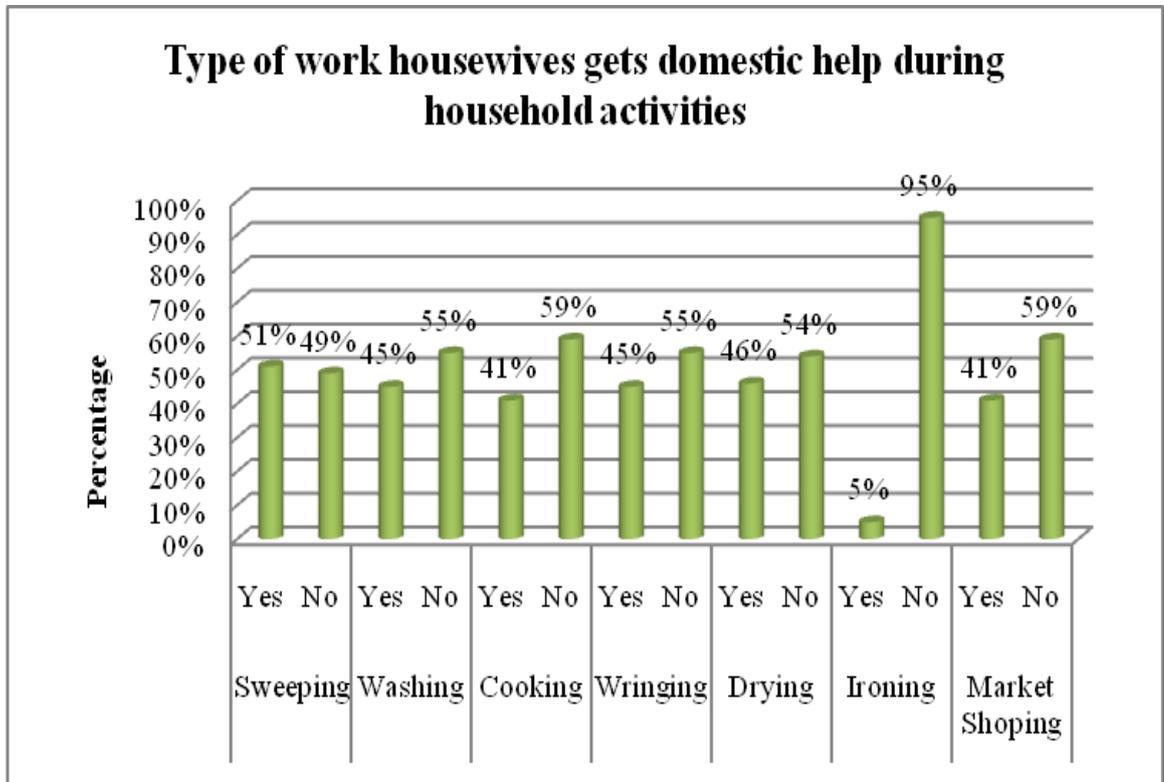


Figure - 6: Type of work housewives gets domestic help during household activities.

4.7: Incidence of individual site of affection

Among the housewives 16% have pain at neck, 19% have pain at upper back, 46% have pain at lower back, 6% have pain at shoulder region, 17% have pain at elbow, 11% have pain at wrist, 4% have pain at finger, 32% have pain at knee, 5% have pain at ankle, 18% have pain at foot and 8% have heel pain. The percentages of body part affection are shown in (Figure-7).

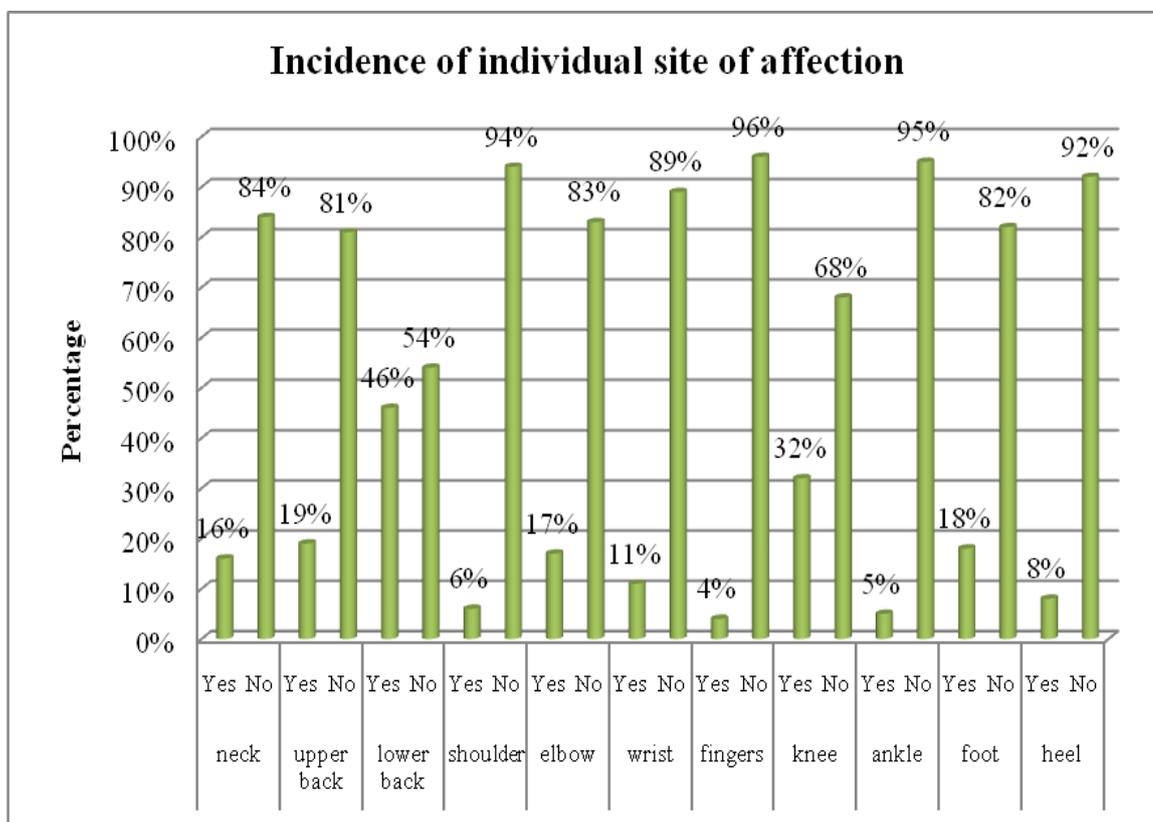


Figure - 7: Incidence of individual site of affection.

4.8: Type of pain

About 22% of housewives have continuous pain, 3% have intermittent pain and 59% have occasional type of pain. Types of pain are shown in (Figure-8).

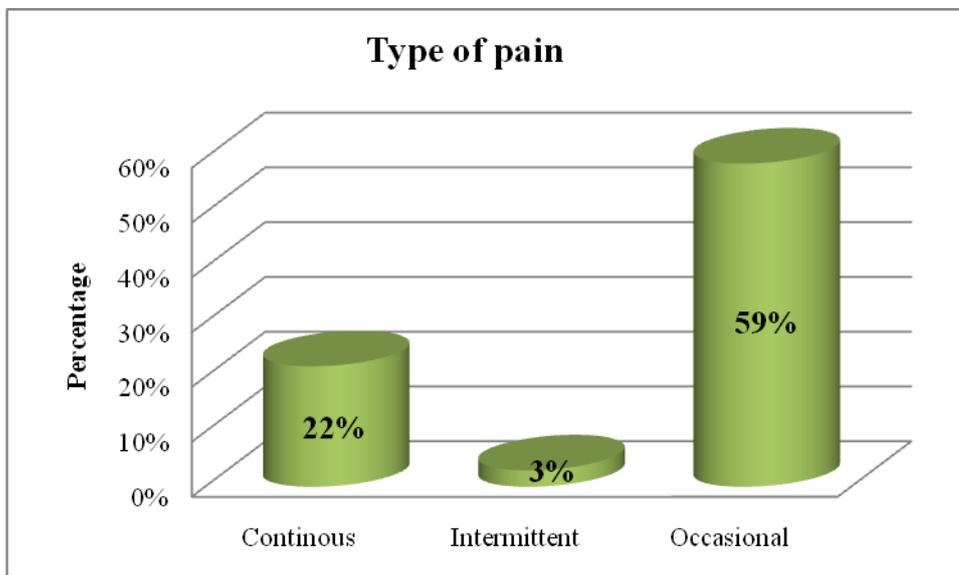


Figure - 8: Distribution of type of pain.

4.9 Distribution of sign & symptom

About 56% of housewives have gradual symptom where 28% of housewives symptoms are sudden onset and 16% have no symptom. Sign & symptom are shown in (Figure-9).

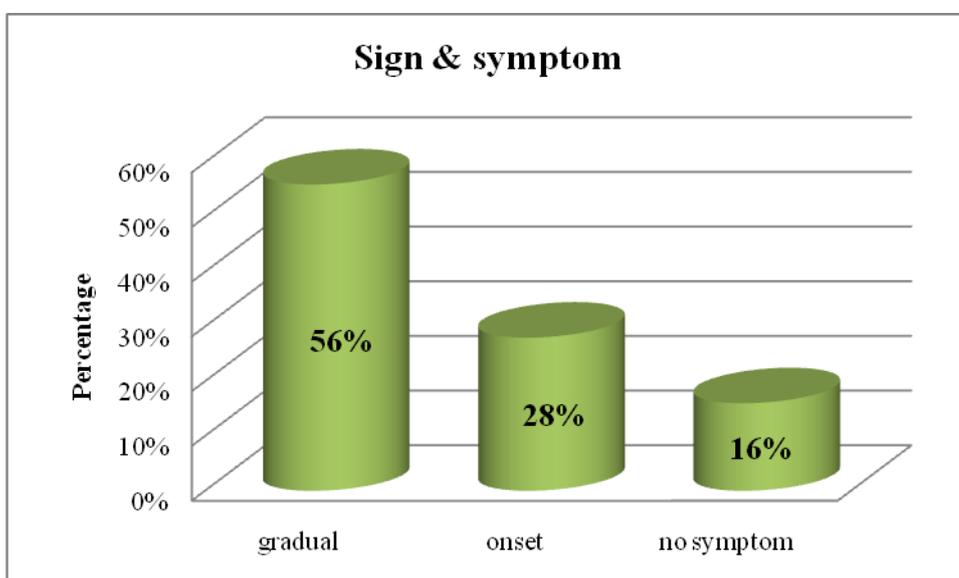


Figure - 9: Distribution of sign & symptom.

4.10 Nature of pain

Among the housewives 15% of have dull aching type of pain, 33% of housewives have tingling and numbness, 29% of housewives have sharp shooting type of pain and 7% have throbbing type of pain. Nature of pain of housewives are shown in (Figure-10)

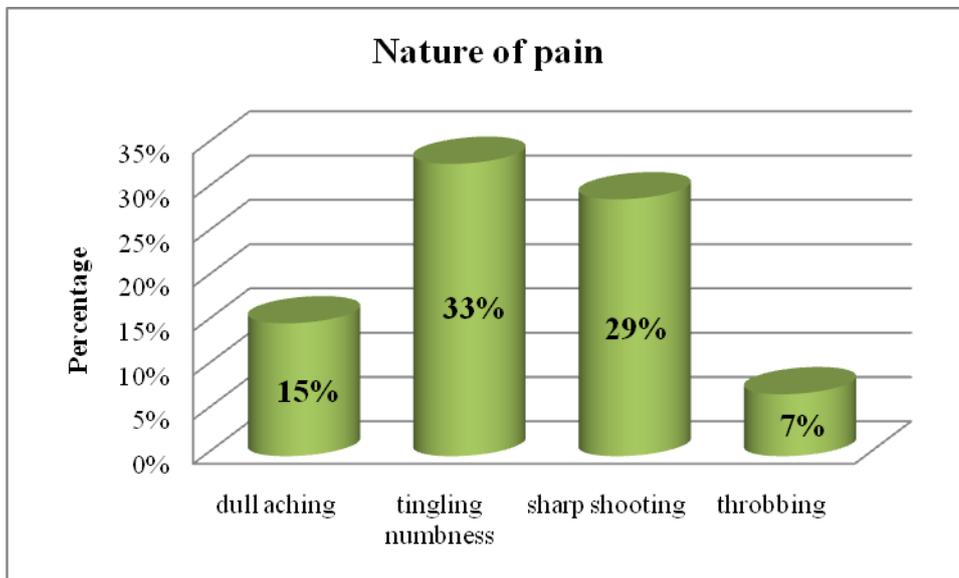


Figure -10: Nature of pain.

4.11 Notching symptom most

During work 50% of housewives notice the symptom most, after work 11% of housewives notice the symptom most and during resting period 23% of housewives notice the symptom most. These are shown in (Figure-11).

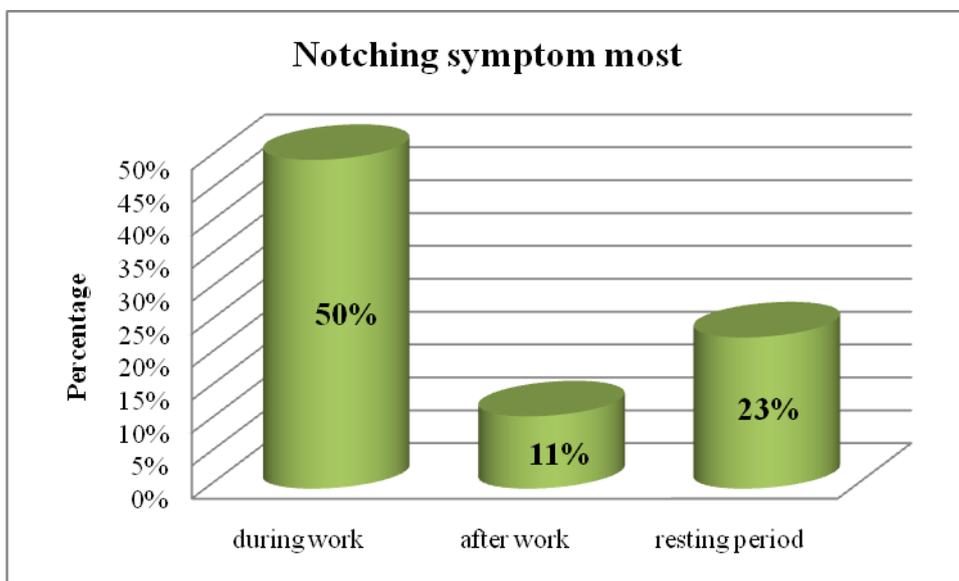


Figure - 11: Notching symptom most.

4.12 Relief of symptom

About 44% of housewives relief from symptom by taking rest, where 27% by medication and 13% relief from symptom by others factor. These are shown in (Figure-12).

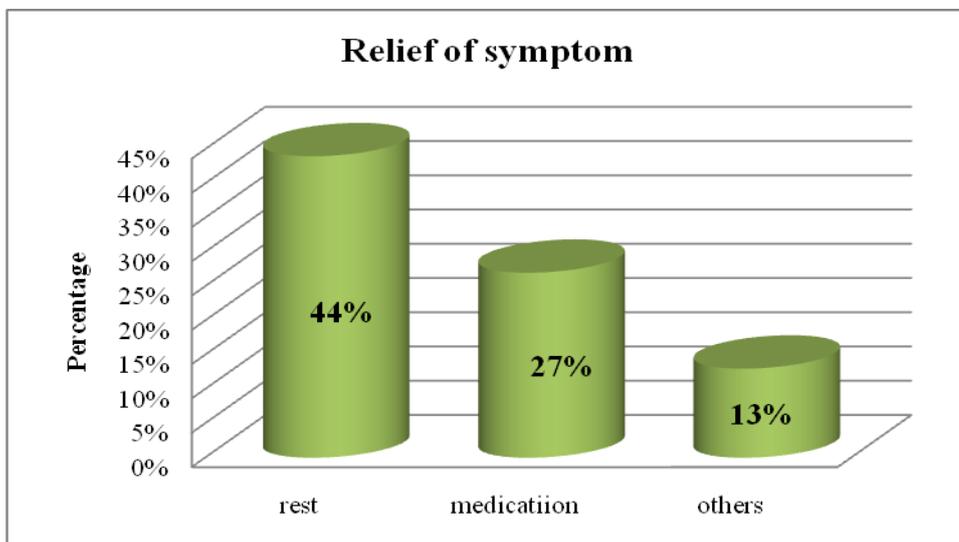


Figure - 12: Relief of symptom.

4.13 Staying away from work due to pain or discomfort

About 22% of housewives stay away from work due to pain and 78% do not stop work due to pain. These are shown in (Figure-13).

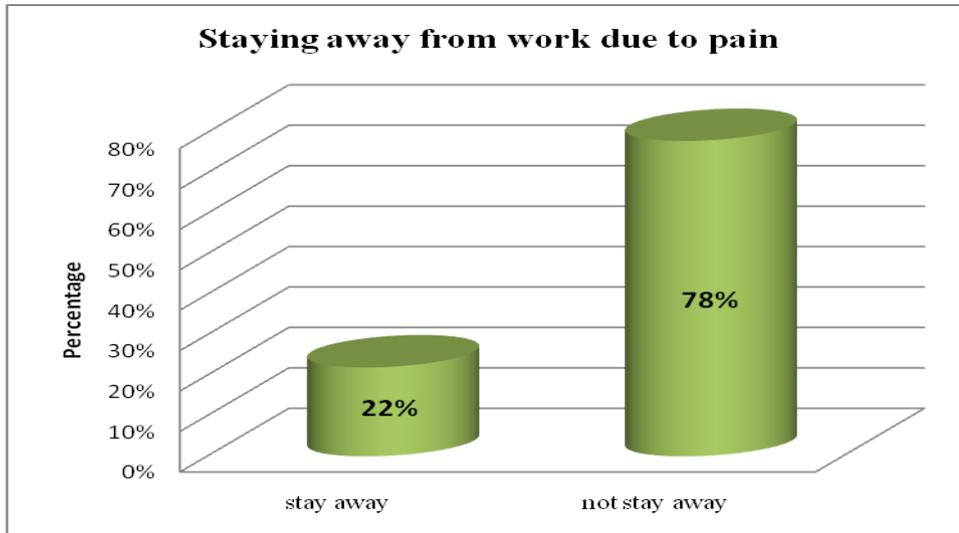


Figure - 13: Staying away from work due to pain or discomfort.

4.14 Distribution of Housewives having systemic illness

Among the 100 participants about 8% of housewives have diabetes, 23% have hypertension, 2% have respiratory condition, 12% have previous trauma, 4% have cardiac condition, 9% have osteoarthritis and tuberculosis, dysmenorrheal, rheumatoid arthritis was absent. Housewives having systemic illness are shown in (figure-14).

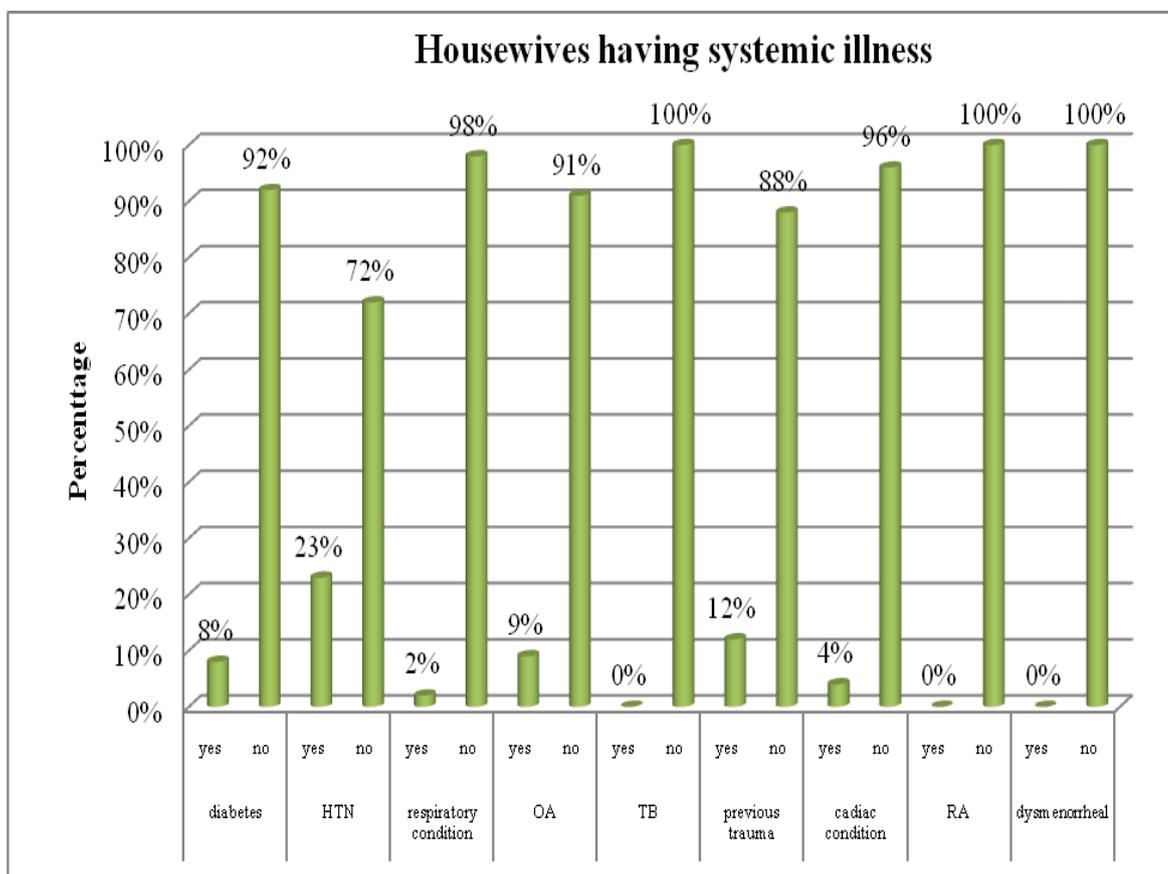


Figure - 14: Distribution of Housewives having systemic illness.

4.15 Distribution of housewives regularly medication

About 33% of housewives taking regular medication and 67% are not taking regular medication. The Distribution of housewives regularly medication is shown in (Figure-15).

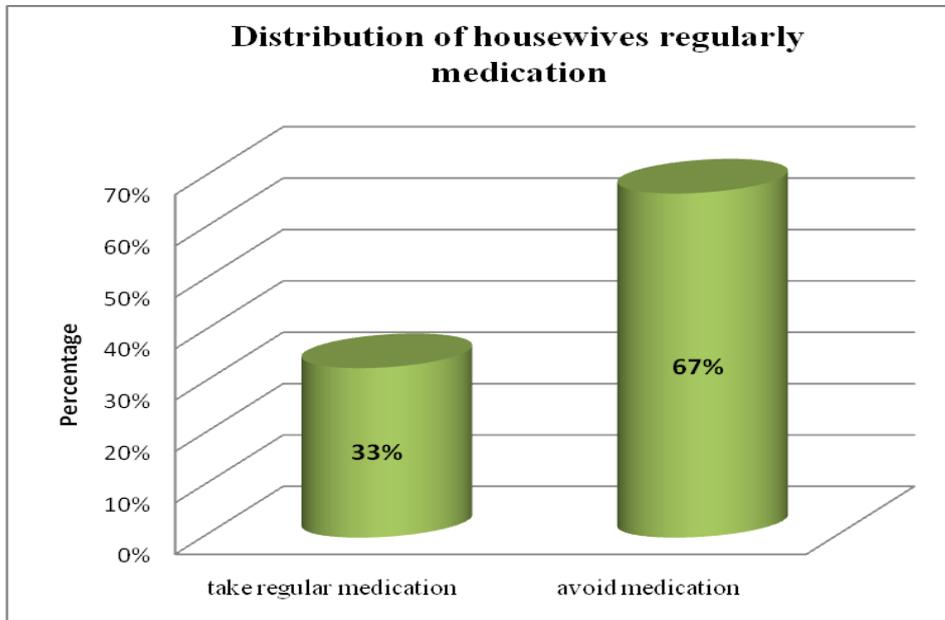


Figure - 15: Distribution of housewives regularly medication.

4.16 Distribution of housewives regularly exercising

About 11% of housewives are regular exercise and 89% are not exercising. Housewives regularly exercising are shown in (Figure-16).

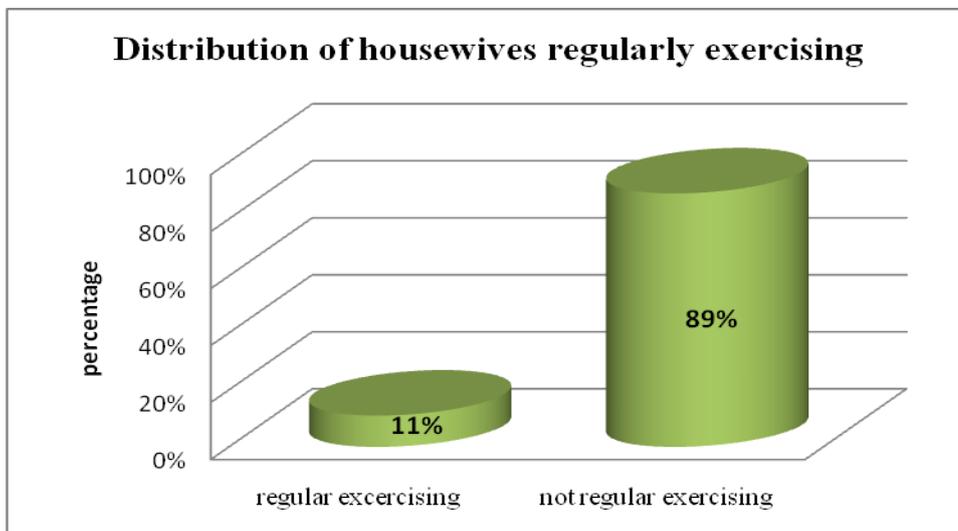


Figure - 16: Distribution of housewives regularly exercising.

4.17 Duration of exercise

The distribution of the exercise was as follows: (01-20) min 4% of housewives do exercise (21-40) min 3% housewives do exercise, 41min-1 hour 5% housewives do exercise. Duration of exercise is shown in (Figure-17).

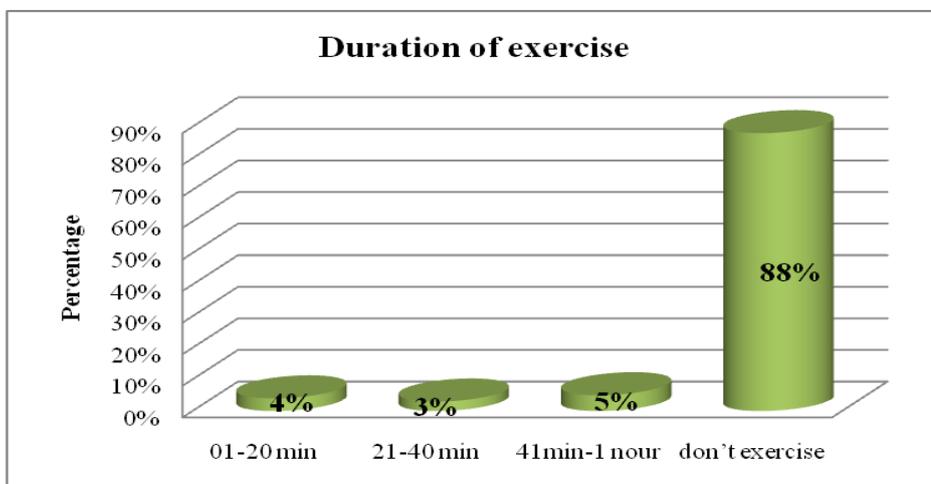


Figure - 17: Duration of exercise.

4.18 Distribution of housewives taking physiotherapy treatment

About 79% of housewives do not take any physiotherapy treatment and 21% of housewives take treatment. Housewives taking physiotherapy treatment are shows (Figure-18).

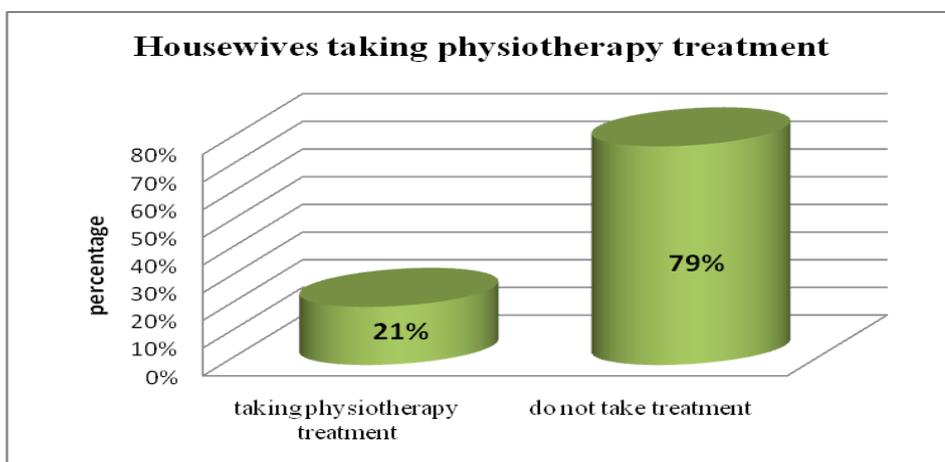


Figure - 18: Distribution of housewives taking physiotherapy treatment.

4.19 Result of treatment

Result of treatment was 100% good between the housewives.

The study based on data gathered from housewives. The mean age of the respondents was 33.36 years. Among the 100 participant the highest age range was (20-30) years and that is (52%) of the participants. And most commonly affected age band were (41-50) and (51-60) years and the percentage was 100%. A statistics by Health and safety executive (2008) showed that the person in between 55-64 years are more suffered by WRMD. Literature also shows that (38.8%) people among (40-54) age group were affected by musculoskeletal disorder and a bit lower than those of (35.7%) people among (25-39) age were suffered by musculoskeletal disorder (Broeck and Verjans, 2010).

In this study, 52% housewives works (4-6) hours daily that is highest time course among housewives, 29% housewives works (1-3) hours daily and 19% housewives works more than 6 hours. In between the housewives 89% do sweeping, 91% do washing, 100% do cooking, 87% do wringing, and 86% do drying, 11% do ironing and 40% do market shopping. And about 62% of housewife having domestic help.

The study recommend that 84% of the housewives suffering from musculoskeletal problems which is higher than any studies. Studies done in India have shown that the rates of musculoskeletal problem in housewives are 68%. (Rajnand, 2010). The prevalence of most chronic conditions (long-term illnesses or conditions that are rarely cured) 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 are suffering from Arthritic condition where the men are 50% in US. Women are more likely to have a chronic disability than men (National Center for Health Workforce Analysis, 2006). In Netherlands the prevalence of disability is higher in female than male old people (Zwart et al., 1997).

Incidence of individual site of affection among the housewives are 46% have Lower back pain (LBP) which is the most commonest affected part of the body, 32% have knee pain, 19% have upper back pain, 18% have pain at foot, 17% have pain at elbow, 16% have neck pain, 11% have wrist pain, 8% have heel pain, 6% have pain at

shoulder region, 5% have pain at ankle and 4% have pain at finger. Some of the studies that examined repetition as a risk factor for shoulder MSDs had several concurrent or interacting physical work load factors (National institute of public safety and health, 1997). As household activities demands long hours of standing and bending work, the most common problems seen are in the low back (19%) and knee (18%) (Rajnand, 2010). Babatunde et al., (2008) found in his research that lower back was mostly affected (69.8%) and least affected body part was elbow (5.6%). And shoulder was 22.2%, wrist 20.6% was affected. Babatunde et al., (2008) showed in his research that the most injured body areas were the low back, hands and neck. Warren (2001) found in his research that lower back is mostly affected (44%) then shoulder (25%).

In present study, about 59% have occasional type of pain, 22% of housewives have continuous pain and 3% have intermittent pain. About 56% of housewives have gradual symptom where 28% of housewives symptoms are sudden onset and 16% have no symptom. And the nature of pain among housewives are 33% of housewives have tingling and numbness, 29% of housewives have sharp shooting type of pain, 15% of housewives have dull aching type of pain and 7% have throbbing type of pain. They notice the symptom most during work 50%, during resting period 23% of housewives notice the symptom most and after work 11% of housewives notice the symptom most and. For which 44% of housewives relief from symptom by taking rest, where 27% by medication and 13% relief from symptom by others factor.

In this study, about 11% of housewives are regular exercise but they have still musculoskeletal problem. This could be because of faulty posture for prolonging period or incorrect exercising techniques. Other study in India shows that 51% of housewives doing exercise regularly (Rajnand, 2010). And as an exercise routine (41min-1 hour) 5% housewives do exercise, (01-20) min 4% of housewives do exercise and (21-40) min 3% housewives do exercise, 41min-1 hour 5% housewives do exercise.

In this study, about 79% of housewives do not take any physiotherapy for their musculoskeletal problems which suggest that there is very minimal awareness of physiotherapy treatment between them.

CHAPTER-VI: CONCLUSION AND RECOMMENDATION

6.1 Conclusion

Musculoskeletal disorders (MSDs) are one of the leading causes of disability in societies and generate enormous human and economic costs. In the work place, the housewives are vulnerable to sustaining musculoskeletal disorders during the course of their work routine. Housewives suffer from multiple musculoskeletal problems that significantly impair their activities of daily living. They rarely mention about musculoskeletal problems at the right time, “having learned to live with pain” they commonly report physical disability. Left unaddressed, musculoskeletal disorders can result in life long pain and permanent disability. As our understanding about them has grown recognition and diagnosis, it has literally exploded to make them the most frequent and most costly of work related injuries in most organized and unorganized sectors. In the home where they performs tasks while sitting, standing, bending, twisting, awkward posture, duration of work and inadequate rest pause are associated with the occurrence of serious musculoskeletal problems and musculoskeletal disorders.

6.2 Recommendation

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 the housewives. Though the research has some limitations but researcher identified some further step that might be taken for the better accomplishment of further research. The researcher recommended the following things-

- Further study is required to verify the consistency of findings and also to understand what factors contribute to these musculoskeletal complaints (e.g. physical factor, individual factor etc.).
- Should take more samples for pilot study to establish the accuracy of the questionnaire.
- Should to run larger empirical studies using simple random sampling to investigate this area further.
- Increasing the number of the participant research can be conduct in different areas within the country and also in particular area.
- Same study also can be conduct on other occupations those who are vulnerable to musculoskeletal disorder e.g. Garments worker.
- This study result will be helpful for the government of Bangladesh to policy making for the provision of physiotherapy services.

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APPENDIX

Appendix -1: Consent form

মৌখিক অনুমতি পত্র

(অংশগ্রহনকারীকে পড়ে শোনাতে হবে)

আসসালামু আলাইকুম / নমস্কার, আমার নাম মো. গোলাম কিবরিয়া। আমি এই গবেষণাটি বাংলাদেশ হেলথ প্রফেশনাল ইনস্টিটিউট (বি এইচ পি আই) এ করছি যা আমার অধিভুক্ত। যার শিরোনাম হল-“গৃহিনীদের মাঝে সাধারণ অস্থি-পেশীয় অভিযোগ সমূহ”। আমি এক্ষেত্রে কিছু ব্যক্তিগত এবং আনুষঙ্গিক প্রশ্ন, অস্থি-পেশীয় অভিযোগ সম্পর্কে জানতে চাচ্ছি। যা আনুমানিক ২০-৩০ মিনিট সময় নিবে। আমি আপনাকে অবগত করছি যে, এটা আমার অধ্যয়নের অংশ এবং অন্য কোন উদ্দেশ্যে এটা ব্যবহৃত হবে না। গবেষক সরাসরি এই অস্থি-পেশীয় জ্ঞান অধ্যয়নের সাথে অন্তর্ভুক্ত নয়। তাই এই গবেষণায় অংশগ্রহণ আপনার বর্তমান এবং ভবিষ্যৎ চিকিৎসায় কোন প্রভাব ফেলবে না। আপনি যে সব তথ্য প্রদান করবেন তার গোপনীয়তা বজায় থাকবে এবং আপনার প্রতিবেদনের ঘটনাপ্রবাহে এটা নিশ্চিত করা হবে যে, এই তথ্যের উৎস অপ্রকাশিত থাকবে।

এই অধ্যয়নে আপনার অংশগ্রহণ স্বেচ্ছাপ্রণোদিত এবং আপনি যে কোন সময় এই অধ্যয়ন থেকে কোন নেতিবাচক ফলাফল ছাড়াই নিজেকে প্রত্যাহার করতে পারবেন। এছাড়াও কোন নির্দিষ্ট প্রশ্ন অপছন্দ হলে উত্তর না দেয়ার এবং সাক্ষাৎকারের সময় কোন উত্তর না দিতে চাওয়ার অধিকার আপনার আছে। এই অধ্যয়নে অংশগ্রহণকারী হিসেবে যদি আপনার কোন প্রশ্ন থাকে তাহলে আপনি আমাকে অথবা ওবায়দুল হক, কোর্স সমন্বয়কারী, ফিজিওথেরাপী বিভাগ যোগাযোগ করতে পারেন।

এটা শুরু করার আগে আপনার কোন প্রশ্ন আছে?

আমি আপনার অনুমতি নিয়ে এই সাক্ষাৎকার শুরু করতে যাচ্ছি?

হ্যাঁ

না

অংশগ্রহণকারীর স্বাক্ষর

সাক্ষাৎকারীর স্বাক্ষর.....

Appendix-2: Consent form

VARBAL CONSENT STATMENT

(Please read out to the participant)

Assalamu alaikum/nomosker, my name is *Md. Golam Kibria*, I am conducting a research project (dissertation) study which included in our course curriculum of Bangladesh health professions institute (BHPI). The title of the study is 'Common musculoskeletal complaints among the housewives'. I would like to know about some personal and other related question about musculoskeletal complaints. This will take approximately 20 to 30 minutes.

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

Your participation in this study is voluntary and you may withdraw yourself at any time during this study without any consequence. You also have a right not to answer a particular question that you do not 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 and / or Md. Obaidul Haque, Course Coordinator, Department of physiotherapy.

Do you have any question before you start?

So may have your consent to proceed with the interview?

YES

NO

Signature of the participant _____

Signature of the interviewer _____

Appendix -3: Bengli questionnaire

প্রশ্নাবলী

অংশ ক: ব্যক্তিগত বিবরণ

বিষয় কোড:

সামাজিক এবং জনসংখ্যাভিত্তিক তথ্যাবলী

১. বয়স: ----- বছর
২. ঠিকানা:-----
৩. শিক্ষাগত যোগ্যতা: -----
৪. কর্মদক্ষতা: ----- বছর
৫. প্রতিদিন কাজের পরিমাণ: ----- ঘন্টা

অংশ খ: উপসর্গ এবং ঝুঁকি নির্ণয়

১. গৃহকর্মের সময় আপনি কি করেন?

(আপনার উত্তরে টিক দিন)

ক. ঝাড় দেওয়া

খ. পরিষ্কার করা

গ. রান্না করা

ঘ. শুকানো

ঙ. লাল্চী

চ. বাজার করা

২. আপনি কি পারিবারিক কাজে সাহায্য পান?

ক. হ্যাঁ

খ. না

৩. কোন ধরনের কাজের জন্য?

(আপনার উত্তরে টিক দিন)

- ক. ঝাড় দেওয়া
- খ. পরিষ্কার করা
- গ. রান্না করা
- ঘ. শুকানো
- ঙ. লম্বী
- চ. বাজার করা

৪. আপনার কি কোন ব্যাথা বা অসুস্থি হয়?

- ক. হ্যাঁ
- খ. না

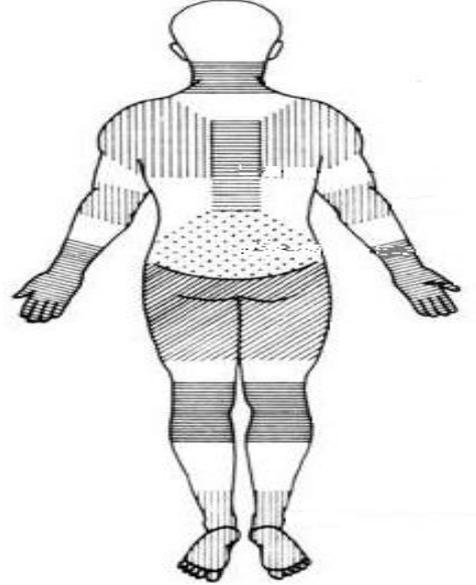
৫. কোথায় আপনি ব্যাথা অনুভব করেন?

(আপনার উত্তরে টিক দিন)

এবার দেহ

তালিকাটি পূরন করুন

- ক. ঘাড়
- খ. পিঠ
- গ. কোমর
- ঘ. কাঁধ
- ঙ. কনুই
- চ. কজি
- ছ. আঙ্গুল
- জ. হাটু
- ঝ. গোড়ালির গ্যাট
- ঞ. পা
- ট. গোড়ালী



৬. ব্যাখার ধরন

ক. ধারাবাহিক

খ. সবিরাম

গ. মাঝেমাঝে

৭. চিহ্ন এবং উপসর্গের ধরন

ক. ধারাবাহিক

খ. সূত্রপাত

৮. ব্যাখার প্রকৃতি

ক. অনুভূতিহীন বেদনা

খ. অসাড়া

গ. অল্পক্ষন স্থায়ী তীক্ষ্ণ ব্যাখা

ঘ. স্পন্দময়

৯. আপনি কখন উপসর্গ ভালভাবে বুঝতে পারেন?

ক. কাজের সময়

খ. কাজের পরে

গ. বিশ্রামের সময়

১০. কোন উপাদান আপনার উপসর্গকে নিরাময় করে?

ক. বিশ্রাম

খ. ঔষধের ব্যবহার

গ. অন্যান্য

১১. আপনি কি ব্যাখার জন্য কাজ থেকে দূরে থাকেন?

ক. হ্যাঁ

খ. না

১২. আপনার কি কোন পদ্ধতিগত অসুস্থতা আছে?

ক. বহুমূত্র

খ. উচ্চরক্তচাপ

গ. শ্বাস-প্রশ্বাসের অবস্থা

ঘ. সন্ধি প্রদাহ

ঙ. যক্ষা

চ. পুরাতন আঘাত

ছ. হৃদপিণ্ডের অবস্থা

জ. বাত ব্যাধিগ্রস্ত সন্ধি

ঝ. বাধক বেদনা

১৩. আপনি কি নিয়মিত ঔষধ খান?

ক. হ্যাঁ

খ. না

১৪. আপনি কি ব্যায়াম করেন?

ক. হ্যাঁ

খ. না

১৫. কতক্ষণ?

১৬. আপনি কি কখনও ফিজিওথেরাপির চিকিৎসা গ্রহণ করেছেন?

ক. হ্যাঁ

খ. না

১৭. যদি হ্যাঁ হয় তা হলে ফলাফল কি?

সহায়তা করার জন্য আপনাকে ধন্যবাদ -----

Appendix -4: English questionnaire

Questionnaires

Part- A: Personal details: _____

Subject code:

Socio-demographic information:

1. Age: _____ Year

2. Address: _____

3. Educational status: _____

4. Work experience _____ Year

5. Working hours in a day _____ hour

Part-B: Symptoms and risk identification

1. What types of work you are doing during household activities?

(Please give a tick on your answer)

- a. Sweeping
- b. Washing
- c. Cooking
- d. Wringing
- e. Drying
- f. Ironing
- g. Market shopping

2. Do you have any domestic help?

- a. Yes
- b. No

3. For what type work?

(Please give a tick on your answer)

- a. Sweeping
- b. Washing
- c. Cooking
- d. Wringing
- e. Drying
- f. Ironing
- g. Market shopping

4. Do you have any pain or discomfort?

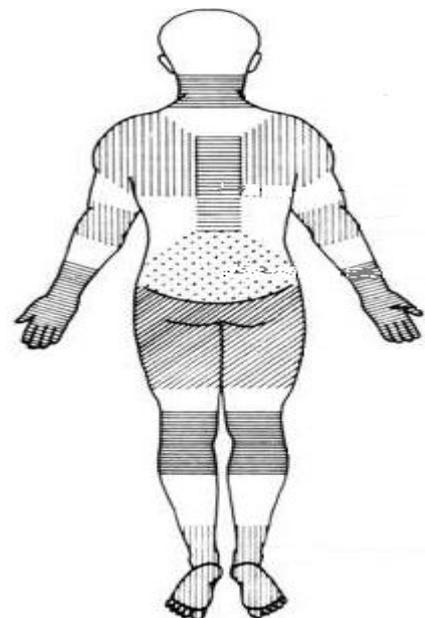
- a. Yes
- b. No

5. In which site you feel pain?

(Please give a tick on your answer)

- a. Neck
- b. Upper back
- c. Lower back
- d. Shoulder
- e. Elbow
- f. Wrist
- g. Fingers
- h. Knee
- i. Ankle
- j. Foot
- k. Heel

And please fill the body chart correctly



6. Type of pain
 - a. Continuous
 - b. Intermittent
 - c. Occasional

7. Pattern of sign and symptom
 - a. Gradual
 - b. Onset

8. Nature of Pain
 - a. Dull aching
 - b. Tingling numbness
 - c. Sharp shooting
 - d. Throbbing

9. When did you notice of the symptom most?
 - a. During work
 - b. After work
 - c. During resting period

10. Which factor relief your symptom?
 - a. Rest
 - b. Medication
 - c. Others

11. Did you stay away from work because of pain or discomfort?
 - a. Yes
 - b. No

12. Do you have any systemic illness?

- a. Diabetes
- b. Hypertension
- c. Respiratory condition
- d. Osteoarthritis
- e. Tuberculosis
- f. Previous trauma
- g. Cardiac condition
- h. Rheumatoid arthritis
- i. Dysmenorrheal

13. Are you on regular medication?

- a. Yes
- b. No

14. Do you exercise?

- a. Yes
- b. No

15. For how long?

16. Have you taken any physiotherapy treatment?

- a. Yes
- b. No

17. If yes. Then what was the result?

Thank you for your assistance.....