Faculty of Medicine

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RISK FACTORS OF MECHANICAL PAIN AMONG THE HOUSEWIVES

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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

"RISK FACTORS OF MECHANICAL NECK PAIN AMONG THE HOUSEWIVES"

Submitted by **Sanjida Akter Anu,** for the partial fulfillment of the requirement for the degree of the Bachelor of Science in Physiotherapy (B.Sc. in PT)

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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 the Department of Physiotherapy of Bangladesh Health Professions Institute (BHPI).

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CONTENT

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Abbreviation

ADL	Activity of Daily Livings
BHPI	Bangladesh Health Professions Institute
CRP	Centre for the Rehabilitation of the Paralyzed
BMI	Body Mass Index
WHO	World health Organization
IRB	Institutional Review Board
MS	Musculoskeletal
SPSS	Statistical Package for the Social Sciences
CI	Confidence Interval
NSP	Neck Shoulder Pain
NDI	Neck Disability Index
PCID	Prolapse Cervical Intervertebral Disc
ICD	International Classification of Disease

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Abstract

Purpose: The purpose of the study was to determine the risk factors of mechanical neck pain for housewife.

Objectives: The objective of the study was to find out the risk factors of mechanical neck pain, socio-demographic information, association between neck pain and housewife, behavior, lifestyle, physical factors, characteristics of neck pain and pain disability index.

Methodology: The dissertation was an observational study with a case-control design. 50 participants responded to a face-to-face interview from 20th April 2023 to 20th June 2023. Inclusion criteria for the case group were having neck pain for at least 3 months and for the control group was not having neck pain for the last 5 years. The exclusion criteria for the case group were pathological neck pain. A structured questionnaire was used that had socio-demographic information, behavior and lifestyle. Neck disability index (NDI) and pain numeric rating scale (NPRS) were used to determine the factors. The statistical test has been conducted as per the distribution of data. Descriptive statistics were performed by the mean, standard deviation, frequency and percentage. Interferential statistics has been performed by chi-square, Pearson's correlation, independent t-test, and one-way ANOVA. Binary logistic regression has been performed using cases, presence of pain, and higher intensity of pain as a predictor variable. P-value was set as <.05.

Results: Among 50 participants 25 were in the case group and 25 were in the control group. Mean± SD of overall age was 3.24± 1.5 and BMI. Among them prevalence of neck pain in Mean ±SD is 0.66±0.917 Association found between neck pain with, stress level, same work, helping hand, repetitive neck movement, television watching and maintain position, prolong sitting.

Conclusion: Many factors were causing mechanical neck pain but among them maintain of position causes mechanical neck pain in most of them.

Key words*: Risk factor, mechanical neck pain, housewife.*

CHAPTER- I
INTRODUCTION

1.1BACKGROUND

Bangladesh is one of the highest population density countries existing with more than 156 million people in the world (Indexmundy, 2008). There are 64 districts in the nation. According to statistics, a district's population is typically around 1.8 million people. There are around 20 million households. A household has 5.6 members on average. At 20%, the urbanization rate is low. This means that 80 percent of the nation's 120 million people live in rural areas where their main source of income comes from a poorly developed agricultural sector. The sex ratio is 106 males for every 100 females (People and Population in Bangladesh, 2011).

Female-Headed Households (FHHs) are one of the main target groups for poverty reduction in developing countries, according to a study report on CPD-UNFPA programs on population and sustainable Development. The 1.3 billion poor worldwide around 70% of the world's population are women. Women are thought to be the most disadvantaged group, especially in terms of health, nutrition, employment, and education (Mannan, 2009).

The vertebrae that make up the neck stretch backward from the top of the torso to the head. The cervical vertebrae, which make up the seven vertebrae in the neck, are there. Between the bones in the neck, cervical discs absorb trauma. Our head is held aloft by muscles, ligaments, and bones. They also permit head mobility. Neck pain is a common complaint. Neck pain is a pain that starts from the neck and can be associated with radiating pain down one or both of the arms. Any abnormalities, inflammation, or injury can cause neck stiffness or neck pain. Some so many people experience neck pain or stiffness occasionally. In most cases, it is due to poor posture or overuse. Sometimes neck pain is caused by injury from a fall from height, heavy weightlifting, contact sports, or whiplash (Hakala et al, 2006).

Sharp pain, neck stiffness, headache, difficulty moving the neck, radicular pain, difficulty holding items, and loss of hand function are some of the symptoms and indicators that are typically associated with neck pain. A study found that neck pain is linked to headaches in 65% of cases,

upper limb pain in 80%, lower back pain in 39% of cases, dizziness in 31% of cases, and nausea in 23% of cases (Cagnie et al, 2007).

Modernity is the epoch in which we live. The contemporary period has seen the most widespread acceptance of technology ever. We hardly ever come across somebody in this place who does not use a smartphone. Rapid advancements in technology, particularly the use of smartphones, have an impact on youth (Hoy et al., 2014).

Neck pain is discomfort or more intense forms of pain that are localized to the cervical region, generally the posterior or lateral region of the neck. The most common neck pain is non-specificmechanical neck pain caused by muscle strain, ligament sprain, spasm, or from the activity of daily livings. Neck muscle can be strained from poor posture (Hanvold., 2015).

In Bangladesh, a study on neck pain was carried out in 2002. According to the study, 1350 of 6476 individuals reported having neck pain. About 21.01% of it. There were 45.55% women and 54.44% men, and 26.08% of them were 14.08% of the workforce were retired, 23.43% were housewives (Shakoor et al., 2002).

About 4.9% (95% CI 4.6 to 5.3) of people worldwide reported having neck pain at some stage. Disability-adjusted life years increased from 23.9 million (95% confidence interval: 16.5 to 33.1) in 1990 to 33.6 million (95% confidence interval: 23.5 to 46.5) in 2010. The Global Burden of Disease 2010 Study examined 291 diseases, and neck pain came in at number four in terms of disability as according to YLDs, it ranks 21st overall in terms of burden (Hoy et al., 2014).

According to a study conducted in Norway, musculoskeletal discomfort, injuries, and diseases account for more than 40% of all sick days and 30% of all disability benefits (Hanvold et al., 2015).

According to Fejer et al. (2006), the prevalence of neck pain among adult patients ranged from 16.7% to 75.1% over a one-year period. In the tame side population of the United Kingdom, about 16.5% of women and 10.7% of men had neck pain at least once per month. (Webb et al., 2003). China, the greatest developing nation with 1.3 billion inhabitants, also has neck problems. The cases of neck pain are now a significant burden on both the affected people and society. Numerous research has revealed that adolescents have a significant incidence of neck pain (Hakala et al., 2006).

Individual characteristics like gender and physical stamina may also be significant (Cagnie et al., 2007). Research on middle-aged and older workers has demonstrated the importance of both mechanical workload and psychosocial factors. At work may raise the possibility of shoulder and neck ache. It has been discovered that mobile phone use and neck pain are closely related. Neck pain is one of the health risks that might result from poor body posture and prolonged usage of this equipment (Hannan et al., 2005).

It is generally agreed that the etiology of work-related neck disorders is multidimensional which is associated with, and influenced by, a complex array of individual, physical and psychosocial factors. Among these various risk factors, work-related psychosocial factors appear to play a major role (Hannan et al., 2005). The identification of factors for neck pain early in working life is important as it could improve intervention strategies aimed at reducing pain development and increase the possibility for young workers to sustain their working careers.

As people age, nearly everyone experiences this chronic deterioration, according to radiographic evidence. Neck pain typically has no symptoms. Symptoms are usually accompanied by pain and rigidity in the neck. But if there is a need for clinical intervention, any clinically significant disorder or deviation from the cervical vertebra. Furthermore, it should be mentioned that there is no recognized treatment to deal with or stop this degradation.Patients with degenerative cervical spondylosis may exhibit mechanical neck pain, radiculopathy, myelopathy, or a mix of these symptoms when they first present. Mechanical neck pain might be accompanied by painful neck spasms.

The mechanical compression or inflammation of cervical nerve roots C6 or C7 results in cervical radiculopathy. If a disc herniates suddenly, the compression may be acute or persistent. The most prevalent sign of cervical radiculopathy, discomfort may travel from the shoulder or upper back to the proximal arm. Paresthesia, weakness, and numbness may also be linked to this degenerative radiculopathy, though not usually with dermatomes connected to the nerve roots.

Reduced deep-tendon reflexes of the biceps (C5-C6) or triceps (C7-C8) are also a result of nerve root compression. The compression of the nerve roots is also connected to cervical degenerative myelopathy, which is typically accompanied by inflammation and edema of the spinal cord. This symptom is the least frequent but most concerning one because it causes a slow but steady decline

in neurologic function as a result of the spinal cord's narrowing and the compression of long tracts of the nerve roots.

The symptoms of "non-specific (simple) neck pain" are experienced by the majority of patients, and they are mechanical or postural in nature. Unknown and frequently complex causes of cervical spondylosis include poor posture, anxiety, neck pain, sadness, and physical or professional endeavors. neck pain following. Whiplash falls under this category as well, providing there is no bone or neurological damage. There is a deficit. The ailment is frequently mechanical in nature when it is prevalent. called cervical spondylosis, even though the term is frequently used to apply to all non-specific neck pain (Binder et al, 2007).

1.2 JUSTIFICATION

Neck discomfort is currently a frequent musculoskeletal condition among young individuals (Hamberg et al., 2006). There has been a lot of research on the causes of mechanical neck pain in another country, but not much of it has been done in ours. So, Finding the true causes of mechanical neck pain in our country's youth is crucial.

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

Neck pain is assumed to be a multifactorial disease, and therefore it is assumed that several risk factors are contributing to its development. Risk factors can be work-related or non-work-related, and they can be divided roughly into 3 categories (e.g. physical, psychosocial, and individual risk factors). Many studies have been conducted to identify the risk factors for neck pain. Most of these studies focus on only one or a few risk factors, or a single category of risk factors. Several reviews on risk factors for neck pain have also been carried out (Hannan et al., 2005).

A common issue that significantly impairs function is neck pain. Further study is urgently required to better understand the determinants and clinical trajectory of neck pain, as well as how neck pain can be avoided and effectively managed in light of the aging global population (Hoy et al., 2014).

Neck pain is closely correlated with physical activity. Regular exercisers tend to live healthier lives than non-exercisers do. Exercise stretches muscles and improves blood flow, which reduces the production of pain-inducing prostaglandins. Therefore, physical activity is essential for reducing pain and improving the likelihood of leading a healthy life (Hoy et al., 2014).

Being a physiotherapist requires us to treat patients as well as work toward illness prevention. Early identification of neck pain risk factors is crucial because it may enhance pain-reduction interventions and raise the likelihood that young workers will be able to continue working in the future.

1.3 Aim

The study aims to identify the risk factors of mechanical neck pain among the housewives.

1.4 Objectives

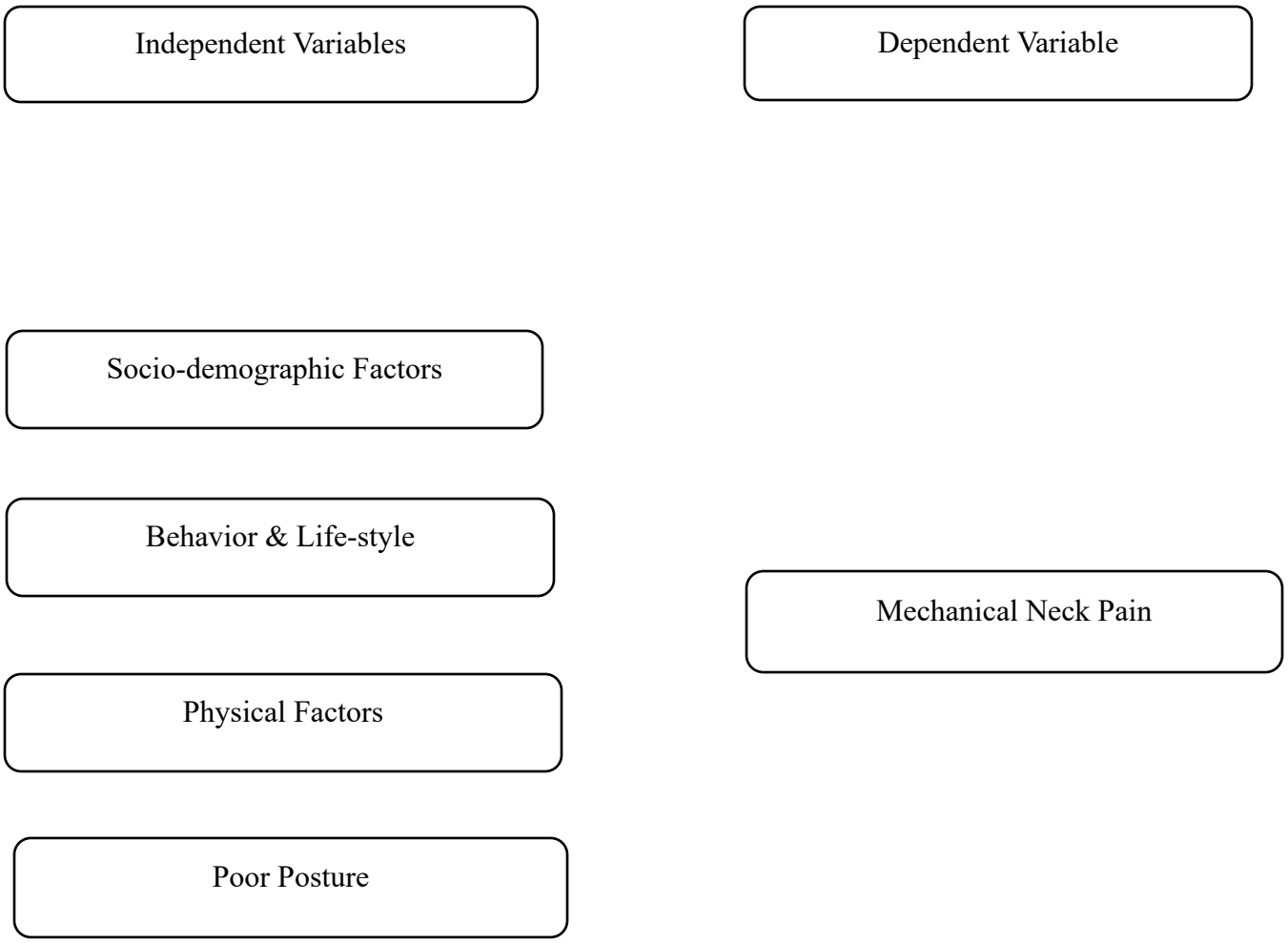
1.4.1 General objective

- To explore risk factors of the mechanical neck pain among the housewives.

1.4.2 Specific objectives

- To obtain socio-demographic information
- To identify behavior, lifestyle and other factors of sufferers and non-sufferers
- To observe neck pain for housewife
- To detect association among variables
- To perceive neck pain related disability for sufferers
- To identify the risk factors of neck pain for housewife
- To organize the risk factors according to severity

1.5 Conceptual framework:



It is understood that approximately 67% of people in the world will experience neck pain during their lifetime, and 20% of these people will develop chronic neck pain (Si-QiWang et al ,2022) Both male and female subjects clinically diagnosed with mechanical neck pain along with referred pain to unilateral upper limb (Peeyoosha Nitsure1 et al, 2014).

Neck pain is a feeling of discomfort that can occur anywhere along the neck, from the base of the skull at the level of the ears to the upper back, shoulder, or arm, and it occasionally spreads up to the finger when a nerve root in either the hands or just one of them is involved (Sabeen et al., 2013).

According to a study, neck discomfort is frequent in adults, affecting 14–71% of young people at some point in their lives, and 19–37% of these patients go on to acquire chronic neck pain. Additionally, the study revealed that neck pain due to pain or disability creates personal distress. ADLs may be impacted by this reduced quality of life (Kanchanomai et al., 2011). Another study also shows that neck pain is the most common type of pain. About 64.3% of respondents said they had experienced neck pain in the previous year, and of those, almost two-thirds (65.4%) said it persisted for more than two days and more than half (53.1%) said it interfered with their daily activities (Hayes et al., 2009).

Clinical descriptions of neck pain issues dating back to the 18th century included bricklayer's shoulder, stitcher's wrist, gamekeeper's thumb, carpet-layer's, and housemaid's knee disorders (Lipscomb, 2008). The rate for the upper back is 18.64%, with the rate for the neck being approximately 25.42%, the back being about 37.29%, and the mentioned location experiencing most of the musculoskeletal discomfort (Bharadva et al., 2014). According to the Ericsson Mobility Report published in June 2021, there are 6.06 million smartphone subscribers worldwide in 2020.

Neck discomfort can occur anywhere from the base of the skull at attention level to the upper few of the back, push, or arm, and it frequently radiates up to the finger when there is a nerve root working in two together hands or a single individual (Sabeen et al., 2013). For the past several decades, numerous researchers have investigated the relationship between neck pain and housewives. They have discovered that there is a close connection between neck pain in workers

and housewives, and that housewives are the most severely impacted of all of them (Diepenmaat et al., 2006).

Another study showing that neck pain has the highest prevalence rate was conducted here. Approximately 64.3% of those indicted claimed to have experienced neck pain throughout their older years. Of those who had experienced neck pain, nearly two-thirds (65.4%) said that it persisted for at least two days, and more than half (53.1%) reported that it interfered with their daily activities (Hayes et al., 2009). Although there is very little data available in Bangladesh on the prevalence of cervical spondylosis or narrow connector discomfort in men, a study conducted among Bangladeshi coolies revealed a staggering 51.3% prevalence of the condition (Kh. Shafiur et al, 2018).

The prevalence of cervical spondylosis was higher in society for people who adopted a seated posture when engaged in activity, but it was lower for people who frequently hunched over. This might be because dignitaries tended to lean forward to bend a welcome tight connector while seated. The incidence of cervical spondylosis also increased over time in correlation with more hours spent in an active posture, but it decreased in populations who held their postures for only two to three hours. This may be due to a lack of changes that would allow the vertebral column to adapt to the postural changes. The unanticipated increase in the majority that comes along with longer hours gives people more time to strategize for breaking away from this acquiescence.

In today's environment, it has become increasingly necessary to watch TV in all facets of our lives. The percentage of women who watch TV is rising proportionally to the percentage of housewives. Many analysts had happened follow ancient times decades for the friendship between the neck pain and homemaker, they find that skilled is an affinity betwixt homemaker pupils, laborers, and neck pain, and still homemaker is the very impressed group between all ruling work (Diepenmaat and others., 2006).

In this place up-to-date planet, the necessity for station in each facet of our history has existed growing occurring every day. The rate of video and calculating consumers is growing fairly compared to the rate of housewife. Housewives are immediately nearly reliant on calculating and TV set for their common tasks had connection with vigilant a motion picture, order, etc. A constant significant relation has been found between prolonged sitting posture and neck pain. In a previous

study, researchers found that for people who sat more than 95% of their work time the risk of the neck was twice that of those who hardly ever worked in a sitting position. The increased risk of neck pain is proportionate to the time spent in the workplace in a sitting position. That is pointing to a clear relationship between prolonged sitting posture and neck pain (Gross et al., 2010).

The rate of neck pain for adult people ranges from 16.7% to 75.1% in a year (Fejer et al., 2006). In the United Kingdom (UK) among the tame side population, approximately 16.5% female and 10.7% male reported their neck pain at least once per month (Webb et al., 2003). China is one of the largest developing countries with 1.3 billion people also experiencing neck pain. Neck pain has become a burden to the sufferers and society. In several studies, it was found that the incidence of neck pain is high in adolescence (Hakala et al., 2006).

According to Luime et al. (2005), workplace mechanical variables and psychosocial factors are related to neck pain. Mechanical workload correlates with neck pain that is found in a study (Hamberg et al., 2006). Other factors like physical capacity are equally important (Cagnie et al., 2007). Nonmodifiable factors like gender, especially females itself a risk factors that contribute to neck pain due to their body structure (Cagnie et al., 2007). A study was done between middle-aged and older workers, and they found the association between them to neck pain (Hannan et al., 2005) Neck pain is more common in housewife especially those aged from 22 to 28 years old, and the mean age is 23 years old (Silva et al.,2016).

A typical measure for assessing body composition is BMI. It is frequently used to forecast appropriate weight for a given height and to spot malnourished people and groups. But there are several restrictions with BMI. First, it fails to accurately determine the weight distribution across the body because it does not measure the percentage of body fat. Second, because it mainly relies on factors like height and weight, it often makes blatantly inaccurate assumptions about how muscles and bone mass are distributed. Thirdly, because people lose height as they age, the BMI is less effective in older age groups. This suggests that the BMI in these situations rises despite the absence of a commensurate rise in weight, which is a significant misconception (Vipin Bihari et al., 2013)

During an 11-year follow-up, a recent study found that being overweight and obese increased the likelihood of widespread chronic musculoskeletal pain, however physical activity could somewhat

offset this negative effect. According to a different study, it is unknown if physical activity and excess body fat have a similar impact on the risk of localized chronic pain in the low back or neck/shoulders. Researchers are starting to look at whether being overweight may worsen pain-related diseases like headache, fibromyalgia, and rheumatoid arthritis (Mork PJ et al., 2018) Taking rest breaks were favorably correlated with reduced neck pain. When compared to participants who had taken fewer than 30 minutes of rest each day, respondents who had taken more than 45 minutes of rest each day had 71% lower odds of experiencing neck pain (AOR = 0.29, 95% CI 0.13, 0.63). Additionally, respondents whose jobs required repeated movement had nearly two times the risks of experiencing neck pain compared to those whose tasks did not (AOR = 1.98, 95% CI 1.01, 3.87). According to this study, neck problems are more likely to occur in jobs that require reaching or excessive stretching. The odds of reporting neck pain were 3.72 times greater for respondents whose jobs required reaching or overstretching than for those whose tasks did not (AOR = 3.72, 95% CI 1.81, 7.66).

Rest breaks were positively associated with lessened neck pain. More than 45 minutes of rest per day was associated with a 71% decreased risk of neck pain when compared to those who had slept for less than 30 minutes per day (AOR = 0.29, 95% CI 0.13, 0.63). Additionally, compared to respondents whose duties did not need frequent movement, those whose jobs did had nearly a twofold increased incidence of neck pain (AOR = 1.98, 95% CI 1.01, 3.87). This study found that jobs requiring a lot of bending or stretching are more likely to cause neck issues. When compared to responders whose tasks did not require reaching or overstretching, the odds of experiencing neck pain were 3.72 times higher (Sintayehu Daba Wami et al, 2019).

METHODOLOGY

Methodology

This section describes the researcher's approach to designing the study in order to achieve the goals and objectives.

3.1 Study design

The purpose of this study was to identify any risk factors of mechanical neck pain among housewives. There has been a perspective case-control study. The case: control ratio was 1:1, meaning there were the same number of cases as controls.

3.2 Goal

To elicit the clinical variable between case and control in order to determine the prediction of neck pain among students who have neck discomfort.

3.3 Setting

3.3.1 Target population

Among 50 housewives have been selected for the study. 25 housewives with mechanical neck pain was selected for the case group and 25 housewife without mechanical neck pain was selected for the control group.

3.3.2 Study area

Housewives in the Dhaka District and Savar region provided the data since they were an easy, rapid, and affordable source of volunteers for the researcher. This study focused on the musculoskeletal system because it was a survey on the risk factors for mechanical neck discomfort among Bangladeshi housewives.

3.3.3 Study period

The study period was from 20thMay 2023 to 20th July 2023.

3.4 Eligibility criteria

3.4.1 Inclusion criteria for case

- The age level should be under 20-60 years. As this is the working age.
- Participants have neck pain.
- Housewives having maidservant or not, both are selected.
- They willingly participate in the research.
- Neck pain is present for at least more than 3 months.
- Pain is associated with neck movement
- Pain can be central or refer to a distal segment of the body.
- The activity of daily living is being hampered for neck pain .
- Neck pain is causing disability.

3.4.2 Exclusion criteria for case

- Age level below 20 years and above 60 years will be excluded.
- Other disability with neck pain such as spondylosis, spondylolisthesis, osteoarthritis, listhesis, PCID, tumor, malignancy, pigget's disease, sryingomyelia, chiari malformation, cervical stenosis
- Pregnant housewives.
- Those who will not fulfill the criteria will be excluded.
- **According to ICD-10:**

✓ The intensely discomforting, distressful, or agonizing sensation associated with trauma or disease, with well-defined location, character, and timing.

✓ Pain is a feeling triggered in the nervous system. Pain may be sharp or dull. It may come and go, or it may be constant. You may feel pain in one area of your body, such as your back, abdomen, or chest or you may feel pain all over, such as when your muscles ache from the flu. Pain can help diagnose a problem. Without pain, you might seriously hurt yourself without knowing it, or you might not realize you have a medical problem that needs treatment. Once you take care of the problem, the pain usually goes away. However, sometimes pain goes on for weeks, months, or even years. This is called chronic pain. Sometimes chronic pain is due to an ongoing cause, such as cancer or arthritis. Sometimes

the cause is unknown. Fortunately, there are many ways to treat pain. Treatment varies depending on the cause of pain. Pain relievers, acupuncture, and sometimes surgery are helpful.

- ✓ Pain that comes on quickly, can be severe but lasts a relatively short time.
- ✓ Physical suffering or distress, to hurt
- ✓ The sensation of unpleasant feeling indicating potential or actual damage to some body structure felt all over, or throughout the body.
- ✓ Severe pain of limited duration
- ✓ The sensation of discomfort, distress, or agony, resulting from the stimulation of specialized nerve endings.
- ✓ Unpleasant sensation induced by noxious stimuli and generally received by specialized nerve endings.
- ✓ Unpleasant sensory and emotional experience arising from actual or potential tissue damage or described in terms of such damage (International Association for the study of pain); sudden or slow onset of any intensity from mild to severe with an anticipated or predictable end and duration of fewer than 6 months
- ✓ Unpleasant sensory and emotional experience associated with actual or potential tissue damage.

3.4.3 Inclusion criteria for control

- Housewife without neck pain
- Age: >20 Years (Padez, 2003)
- Who had not been suffered from neck pain within the last 5 years
- Who has never been treated for neck pain
- Who share the same exposure criteria that the case group has but not suffering from neck pain.

3.4.4 Exclusion criteria for control

- refusing to take part.

3.5 Sample size calculation

$$n = \left(\frac{r+1}{r}\right)\frac{(p)(1-p)\left(Z\beta + Z\frac{a}{2}\right)^2}{(p1-p2)^2}$$

Where,

n = Sample size in the case group

r = ration of controls to cases

p = A measure of variability

Zβ = Represents the desired power (typically .84)

Zα/2 = Represent the desired level of statistical significance (typically 1.96)

(P1-P2) = Effect size (the difference in proportions)

r = 1

Odd ratio= 2.0

So, the equation stands,

$$\text{p case exp} = \frac{ORP\ control\ exp}{pcontrol\ \exp(OR-1)+1}$$

$\text{p case exp} = \frac{2\times(0.16)}{(0.16)(2-1)+1} = \frac{0.23}{1.16}$ =0.276

$\text{Average propotion exposed} = \frac{(0.276+0.16)}{2} = \frac{0,436}{2}$ =0.218

Again,

$$n = \left(\frac{r+1}{r}\right)\frac{(p)(1-p)\left(Z\beta + Z\frac{a}{2}\right)^2}{(p1-p2)^2}$$

$n = \left(\frac{1+1}{1}\right)\frac{(0.218)(1-0.218)(0.84+1.96)^2}{(0.276-0.16)^2}$ =2× $\frac{0.218\times0.782\times7.84}{(0.116)^2}$ =2× $\frac{01.336}{0.0134}$ =$\frac{2.672}{0.0134}$ =200

Therefore, n = 200

So, 100 cases and 100 controls.

3.6 Selection of case

In order to conduct a case-control study, the research was initiated by identifying a group of individuals who had mechanical neck discomfort, or cases. The researcher picked out examples based on predetermined standards. The subjects for this study were housewives in the Savar area who had mechanical neck pain.

3.7 Selection of control

The researcher selected the controls that were free from neck pain. The relatively comparable sources of controls included the housewife. So similarly, the investigator selected the controls who had not been affected by mechanical neck pain

3.8 Sampling technique

In this study data were collected by both structured and semi structured mixed type questionnaire. Mixed type questionnaire includes 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 investigators met with individual subjects 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.

Considering the inclusion-exclusion criteria and the number of housewives it was difficult to find the expected number of subjects. This technique was feasible and suitable for the researcher to obtain relevant information according to study objectives.

3.9 Data collection tool

A non-structured questionnaire was used for data collection by face-to-face interview. The questions were divided into key six sections which almost covered all issues regarding risk factors of mechanical neck pain including age, gender, educational status, residential area, hobby, the activity of daily living (ADL), obesity, lifestyle, posture. The investigator provides a structured questionnaire for data collection. Questions were set in a logical order. Bengali version of question

was used because of participant easy understanding. Also, paper, pen, pen drive, clip board and consent forms were used for data gathering.

3.10 Measurement of relative risk factors

To evaluate the relative risk factors, the case group was considered as the dependent variable and other factors were considered as the independent variables. With the help of SPSS version 20, we analyzed data through regression. In regression odd ratio and 95%, CI was also calculated to evaluate the relationship. 95% CI was applied to show the significance between the two variables. The odds ratio was computed to determine how much risk there was in the presence of certain exposure compared to those who didn't have that exposure.

3.11 Data description

Categorical data including nominal and ordinal are non-parametric data. Continuous data including interval and ratio data are parametric data.

Category of age, educational states, residential area, hobby, self-perceived stress level, helping hand, stove position, repetitive neck movement, maintenance of proper posture, having pain or not, cause of pain, pain limiting any activity or not and pain severity are non-parametric data.

Overall age, body mass index (BMI) and total score of NPDI are referred to as parametric data as they are interval and ratio data.

3.12 Determination of statistical test

The statistical has been performed as descriptive and inferential statistics based on parametric or non-parametric properties. The descriptive statics were performed as frequency and percentage in nominal or ordinal data. Mean and standard deviation has been calculated for interval or ratio data.

A descriptive and interferential statistical analysis had been conducted to find out the desired result. In the descriptive section, the categorical (nominal and ordinal) variables were measured in percentage, and they were shown by using different bar diagrams, pie charts, and tables. The central tendency and measure of the dispersion of continuous (interval and ratio) variables were calculated through mean and standard deviation. In the interferential section Normality test, Chi-square, Pearson's correlation, independent t-test, One-way Anova, and binary regression were used to find the association between different dependent and independent variables.

3.13 Quality control and assurance

The thesis has been checked by the supervisor in both hard and soft copy. The investigator has enough knowledge in the designated study, hence the study area and underneath issues has been keenly explored. The format of the questionnaire will purely be structured; thus it has to enable a definitive answer. The questionnaire will be developed according to the literature search and peer review for a reliable questionnaire. The investigator will be tried to avoid selection bias due to strictly maintained inclusion and exclusion criteria. Both cases and controls has been well defined in this study to avoid conflict in the selection of the case and control.

3.14 Ethical considerations

- The whole process of this research project will be conducted by following the guidelines of the Institutional Review Board (IRB) of Bangladesh Health Professions Institute (BHPI).
- Informed consent has been taken from all participants
- Confidentiality has been strictly maintained
- Participant’s rights and privileges will be ensured
- No harmful act has been taken and the participant can withdraw themselves within 3 months of submission
- Clinical trial registration has been done
- This study was done in a short period, so all factors in relation to housewives' musculoskeletal problem may not be highlighted.

4.1 Socio-demographic information`

Table 01: Descriptive analysis of socio-demographic information

Variables	Total (%)	Case (%)	Control (%)
Overall Age			
20-55 years	34.5±8.73	37.9±8.27	31.08±7.92
Age			
20-25 years	7(14%)	1(4%)	6(24%)
26-30 years	10(20%)	3(12%)	7(28%)
31-35 years	15 (30%)	6(24%)	9(36%)
36-40 years	6 (12%)	5(20%)	1(4%)
41-45 years	9 (18%)	7(28%)	2(8%)
46-50 years	0(0%)	0(0%)	0(0%)
51-55 years	3 (6%)	3(12%)	0(0%)
Educational status			
Primary	5(10%)	4(16%)	1(4%)
S.S.C	25(50%)	13(52%)	12(18%)
H.S.C	16(32%)	6(24%)	10(40%)
Graduate	4(8%)	2(8%)	2(8%)
Hobby			
Gardening	13(26%)	7(28%)	6(24%)
Reading	4(8%)	1(4%)	3(12%)
Watching TV	31(62%)	17(68%)	14(56%)
Fishing	2(4%)	0(0%)	2(8%)
Residential Area			
Rural	26(52%)	12(48%)	!4(56%)
Urban	5(10%)	4(16%)	1(4%)
Semirural	19(38%)	9(36%)	10(14%)
Self-Perceived stress			
Low	63(86%)	20(80%)	23(92%)
Medium	7(14%)	5(20%)	2(8%)
BMI	22.08±2.917	23.5±3.36	21.07±2.07
Same Work			

Yes No	38(76%) 12(24%)	25(100%) 0(0%)	13(52%) 12(48%)
Helping Hand Yes No	 34(68%) 16(32%)	 16(64%) 9(36%)	 18(72%) 7(28%)
Stove Position Above Below	 37(74%) 13(26%)	 18(72%) 7(28%)	 19(76%) 6(24%)
Repetitive Neck Movement Yes No	 45(90%) 5(10%)	 25(100%) 0(0%)	 20(80%) 5(20%)
Maintain Posture Yes No	 15(30%) 35(70%)	 0(0%) 25(100%)	 15(60%) 10(40%)
Take Any Medicine Yes No	 25(50%) 25(50%)	 25(100%) 0(0%)	 0(0%) 25(100%)
Take Physiotherapy Yes No	20(40%) 30(60%)	20(80%) 5(20%)	0(0%) 95(100%)
Have Neck Pain Yes No	 25(50%) 25(50%)	 25(100%) 0(0%)	 0(0%) 25(100%)
Feeling any Discomfort Yes No	 50(100%) 0(0%)	 25(100%) 0(0%)	 25(100%) 0(0%)
Neck Pain limit Sleeping Working Concentrating on any work Social recreational activity	 11(22%) 14(28%) 5(10%) 2(4%) 18(36%)	 9(36%) 11(44%) 5(20%) 0(0%) 0(0%)	 2(8%) 3(12%) 0(0%) 2(8%) 18(72%)

Not limiting any activity			
Pain intensity			
O	25(50%)		
1	2(4%)	2(4%)	0(0%)
2	2(4%)	2(4%)	0(0%)
3	2(4%)	2(4%)	0(0%)
4	7(14%)	7(14%)	0(0%)
5	3(6%)	3(6%)	0(0%)
6	4(8%)	4(8%)	0(0%)
7	4(8%)	4(8%)	0(0%)
8	1(2%)	1(2%)	0(0%)
9	0(0%0	0(0%)	0(0%)
10	0(0%)	0(0%)	0(0%)
NDI	1.355±0.954	2.88±0.35	1.46 ±1.66

Overall age of the participants

50 participants' mean±SD of overall age (20-55 years) was 3.24±01.5 For the case group, mean± SD was 4.04±1.59 and for the control group, mean± SD was 2.44±1.15.

Age in category

The study was conducted with 50 participants. Among them, 50 were selected as cases who had neck pain and 50 were selected as control who had no neck pain. Their mean age and standard deviation were (3.24±1.5). The age was categorized into seven divisions. From 20-25 years there were 7(14%) participants, 26-30 years there were 10(20%) participants,31-35 years there were 15(30%) participants,36-40 years were 6(12%) participants,41-45 years were 9(18%) participant,46-50 years were 0(0%) participants and 51-55 years were 3(6%) participants.

Educational status

Overall, 10% of participants were Primary, 50% of participants were S.S.C.,32% of participants were H.S.C.,8% of participants were Graduate among 50 participants.

Residential area

Among the 50 people 10% were from urban areas, 52% from rural areas, and 38% from semirural areas. In the case and control group, the number of participants who lived in rural areas was 48% and 56%, in urban areas 16% and 4%, in semirural areas 36% and 40%.

Hobby

Among 50 participants 26% of people like to do gardening, 8% like reading, 62% watch television and the rest 4% like fishing. In the case and control group, the percentages of their hobby are gardening (28%, 24%), reading a book (4%, 12%), watching television (68%, 56%), and fishing (0%, 8%).

BMI

Among 50 participants Mean ± SD is 22.08±2.917 For the control group, it is 23.5± 3.36 and for the case group 21.07±2.07.

Stress level

Among all the participants 86% (n=43) felt low stress, 14% (n=7) medium stress. In case group 80% felt low, 20% medium a. In the control group 92% felt low, 8% medium.

Same Work

Among 50 participants are do same work in 76% and are not do same work 24%. In case group 100% of participants do the same work and in the control group 52% participants do the same work and 48% participants are not do the same work.

Helping hand

Among 50 participants 68% of participants their have a helping hand and the 32% participants their have no helping hand. In case group 64% of participants their have a helping hand and 36% of participants their have no helping hand. In the control group 72% participant their have a helping hand and 28% of participants have no helping hand.

Stove Position

Among 50 participants 74% of participants had their stove position above and the 26% participants had their stove position below . In case group 72% of participants had their stove position above and 28% of participants had their stove position below. In the control group 76% of participants had their stove position above and 24% of participants had their stove position below.

Repetitive Neck Movement

Among 50 participants 90% of participants are moving their neck repetitively and the 10% participants are not moving their neck repetitively. In case group 100% of participants the are moving their neck repetitively and 0% of participants are not moving their neck repetitively. In the control group 80% of participants are moving their neck repetitively and 20% of participants are not moving their neck repetitively.

Maintenance of posture

Among 50 participants 30% of participants maintain their posture and the 70% of participants are not maintain their posture. In case group 0% of participants maintain their posture and 100% of participants are not maintain their posture. In the control group 60% participant are maintain their posture and 40% of participants are not maintain their posture.

Neck pain limited

Among 50 participants 22% of participants had sleeping limitation,28% participants had working limitation,10% participants had concentration on any work limitation,4% participants had social recreational activity,36% participants had not limited any activity. In this case group 36% of participants had sleeping limitatino,44% of participant had working limitation,20% of participants had concentrating on any work limitation. In the control group 8% participants had sleeping limitations,12% participants had working limitations,0% participants had concentrating on any work limitations,8% participants had social recreational activity,72% participants had not limited any activity.

Table-02: Sleeping of participants among case and control group.

Variables	Total (%)	Case (%)	Control (%)
Sleeping Problem			
Yes	29(58%)	25(100%)	4(16%)
No	21(42%)	0(0%)	21(84%)

Among 50 participants 58% of participants had sleeping problem and 42% of participants had not sleeping problem. In case group about 100% of participants had sleeping problem and 0% of participants had not sleeping problem, in control group 16% of participants had sleeping problem and 84% of participants had not sleeping problem.

Table 03: Cause of neck pain of participants among case & control group.

Variables	Total (%)	Case (%)	Control (%)
Cause of Neck Pain			
Prolong Working	10(20%)	6(24%)	4(16%)
Watching TV	11(22%)	4(16%)	7(28%)
Posture assumed during Working	12(24%)	11(44%)	1(4%)
Prolong Sitting	4(8%)	2(8%)	2(8%)
Type of pillow used when sleeping	13(26%)	2(8%)	11(44%)

Among 50 participants 20% of participants had cause of neck pain for prolong working, 22% for watching tv, 24% for posture assumed during working, 8% for prolong sitting & 26% for type of pillow used when sleeping.In case group about 24%, 16%, 44%, 8% & 8% are cause neck pain for this variables & in control group about 16%, 28%, 4%, 8% & 44% are cause neck pain for this variables.

Table 04: Level of pain of participants among case & control group.

Variables	Total (%)	Case (%)	Control (%)
Mild	35(70%)	11(44%)	25(100%)
Moderate	11(22%)	10(40%)	0(0%)
Sever	4(8%)	4(16%)	0(0%)

Among 50 participants 70% of participants had mild pain, 22% had moderate pain & 8% had sever pain. In case group 44% of participants had mild pain, 40% had moderate pain & 16% had sever pain. In control group 100% had mild pain and no moderate & sever pain.

4.2 Relationship

To analyze the data Chi-square, Independent t-test, One-way ANOVA was done. The test value and P-value are shown below on the table-

Table 05: Association between pain and other variables

Dependent Variable Pain (present/Absent)			
Socio-demographic Information			
Independent Variable	**Test Name**	**Test Value**	**P-Value**
Age Overall	Independent T Test	4.061	**0.0001**
Age in category	Chi-square	14.21	**0.014**
Educational states	Chi-square	2.84	0.417
Residential Area	Chi-square	2.006	0.367
Hobby	Chi-square	2.41	0.49
Physical Factors			
BMI	Independent T-test	0.768	0.446
Stress Lavel	Chi-square	1.876	0.391
Helping Hand	Chi-square	0.368	**0.544**
Stove position	Chi-square	0.104	0.747
Repetitive Neck Movement	Chi-square	5.55	**0.018**
Maintain position	Chi-square	21.42	**0.0001**
Pain related information			
Cause of pain	Chi-square	16.764	**0.002**
Limiting from	Chi-square	34.455	**0.0001**

NDI			
Total NDI	Independent T-Test	19.214	**0.0001**

P value *= <0.5, **= <.01, ***= <.001.

Here, the dependent variable was pain. The pain was highly significant (P= .0001) with the variables like Age, maintain position, Limiting From and with a total score of NPDI. The pain was moderately significant (P= <.01) in age in category, Repetitive neck movement. Pain was comparatively less significant (P= <.05) with helping hand.

4.3 Regression

Regression of data was done to evaluate the association between predictor variables with other variables.

Table 06: Binary regression of pain with other variables

Predictor Variables	Dependent Variables Presence of Pain				
	Nagelkerke R^2	β	**P-Value**	**OR**	**95%CI (lower, upper)**
Educational States	0.077	-1.386	0.469	0.250	0.013,4.729
Same Work	0.373	-21.714	**0.001*** **	3.052	0.526,5.287
Helping Hand	0.010	0.369	**0.01*** **	1.446	0.438,4.781
Stove position	0.003	-0.208	**0.001*** **	0.812	0.229,2.882
Repetitive Neck Movement	0.185	21.426	0.99	2.010	0.010,2.345
Maintain Position	0.563	-22.11	**0.001** **	0.276	0.150,0.507
Residential Area	0.056	-1.55	0.421	0.214	0.214,2.187

P value *= <.05, **= <.01, ***= <.001.

The residential area and educational states were found not associated (P= >.05) with the presence of pain. Presence of pain was associated (P= <.05) with the variables are the same work, helping hand, stove position and the maintenance of position. A positive association was found and was significant (P= <.05) with the presence of pain with the same work, helping hand, stove position and maintain of position or posture.

From the table it is observed that the total participants of this study were 50 where 25 were case and 25 were control, Calculated OR for same work is 3.052 which mean there was a high risk factor of mechanical neck pain among the housewives. The result indicating that mechanical neck pain is 3 time more frequent among the housewives. The 95% CI of OR was ranging from 0.526 to 5.287 indicating that this association was significant.

Repetitive Neck Movement in neck calculated OR 2.010 which mean there was moderate risk factor of mechanical neck pain among the housewives. The result indicating that mechanical neck pain is 2.010 time more frequent among the housewives. The 95% CI of OR was ranging from 0.010 to 2.345 indicating that this association was significant.

From the table it is observed that the total participants of the study Calculated OR for Helping Hand is 1.446 which means 1.446 time more frequent among the housewives who had any helping hand. The 95% CI of OR was ranging from 0.438 to 4.781 indicating that this association was significant.

Stove Position is going on in mechanical neck pain among the housewives is Calculated OR 0.812 which means there was association the mechanical neck pain among the housewives. The result is indicating that mechanical neck pain is frequent among the housewives. The 95% CI of OR was ranging from 0.229 to 2.882 indicating that this association was less significant.

From the table it is observed that the total partcipants of the study calculated OR for Educational states, Maintain position, Residential area was also less significant.

CHAPTER – V DISCUSSION

The global point prevalence of neck pain was 4.9% (95% CI 4.6, 5.3).Out of all 291 conditions studied in the Global Burden of Disease 2010 Study, neck pain ranked 4th highest in terms of disability as measured by YLDs, and 21st in terms of overall burden (Hoy et al., 2014).

The study found that the neck was the most affected area among housewives. Respondent's mean age was 35 years (SD= 8). Their mean Body Mass Index (BMI) was 23.51 kg/m2 (SD = 3.74) (Hossain et al., 2018). In this study, the researcher found that the mean age was 34.5 years (SD= 8.73) and BMI was (mean± SD= 2208± 2.917), which is almost like the study researcher Hossain did. This indicates people whose BMI is almost 22-23 are the group who suffers from neck pain. There is an association between neck pain and BMI. There is a linear relation between neck pain and BMI.

In the United Kingdom (UK) among the tame side population, approximately 16.5% female and 10.7% male reported their neck pain at least once per month (Webb et al., 2003). On another study the prevalence of neck pain was 41.1%, with more girls 44.2% reporting having neck pain than boys 37.7% (Silva et al., 2016). The researcher found 62% female and 38% male were affected. 62% of females felt neck pain where only 38% felt neck pain at least once in 3 months. Females are a more affected group in terms of neck pain than males. Almost 62% of female students are suffering from neck pain whereas only 38% of the male are suffering from neck pain. Although the percentage of the male is not so minor to be ignored.

A study in China was conducted related to neck pain. They found neck pain is related to physical exercise (0R- .55, 95% CI- .35, .86) (Yue et al., 2012). On another study they found physical inactivity (OR = 1.85, 95% CI 1.14–2.99) was related to neck pain (Cagnie et al., 2007). The researcher found on regression the association (P= <.05) of neck pain with physical exercise (OR- .736, 95% CI- .628, .863). Which result is close to the research done in China.

People who usually don't maintain the neck posture or repeatedly move their neck may have neck pain. In Europe, a researcher found that mal-posture of neck may cause neck pain (OR = 1.85, 95% CI 1.14–2.99) (Cagnie et al., 2007). The researcher found on this study that there is a linear relationship between neck pain and repetitive neck movement (OR- 3.313, 95% CI- 1.854 to 5.918).

Physical workload such as repetitive neck movement, static posture, and awkward posture has a significant association with neck pain. It is also associated with poor posture, neck strain, occupational injuries, four to five hours of daily computer use or watching TV is considered as a risk factor for neck pain in students (Sabeen et al., 2013). Researcher found people who repeatedly move their neck (OR- 3.313, 95% CI- 1.854 to 5.918), don't maintain proper position (OR- .276, 95% CI- .150, .507), uses more computer (OR- 3.802, 95% CI- 1.953, 7.400) having neck pain than others who maintain posture and uses less computer in the appropriate position.

In a study, it has been mentioned that 82.6% carried their bags over both shoulders and association of neck pain with gender, family history, bag weight, carrying style of the bag weight (Shan et al., 2014). The researchers found 55.5% carry bags on both shoulders. Sex(Male- 38%, female- 62%) and family history (36%) of neck pain were independent risk factors for neck pain, and neck pain was positively associated with family history (P= <.05, OR- 2.398, 95% CI- 1.062, 4.572), bag weight (P= <.05, OR-1.700, 95% CI- 1.290, 2.240) and different methods of carrying bags (P= <.05, OR-2.055, 95% CI- 1.153, 3.660). Students who were uneasy with their chair height 21.4% had higher incidences of neck pain. In this study, 42% of people reported neck pain due to inappropriate chair height (P= <.05, OR-4.846, 95% CI- 2.394, 9.810).

In binary logistic regression researcher found a linear relationship between case group and repetitive neck movement (β= 21.42), helping hand (β= 0.369) and the educational states (β= -1.386). The same work, including inappropriate posture, long sitting time, watching TV for more than 1.5 hours per day remained associated with neck pain. Computer use can increase the incidence of neck pain and reported working on same work for 6 to 10 hours per week was a risk factor (Shan et al., 2014). The researchers found in this study that neck pain is associated with repetitive Neck movement (P= <.05, OR- 2.01, 95% CI- 0.010, 2.345); people who repetitive neck movement and watching TV 4.9±2 hours are more suffering from neck pain.

A study conducted in Europe found prolong sitting (OR = 2.06, 95% CI 1.17–3.62) like during prolonged reading can be a risk factor of mechanical neck pain (Hoy et al., 2014). In this study the researcher found prolong sitting duration (OR- 1.510, 95% CI-1.295, 1.759), duration of the class (OR- 1.188, 95% CI- 1.017, 1.388) and reading duration (OR- 1.329, 95% CI- 1.110, 1.590) was associated to the neck pain. Researchers found a positive relationship between neck pain and duration of sitting (β= 1.510), class (β= 1.188) and reading (β= 1.329).

Th stress level of a person has an effect on pain, especially on neck pain. In a study it has been found that the stress lavel can cause neck pain. The rate was higher in people who are in mental stress (OR = 2.05, 95% CI 1.29– 3.26) rather than people who has lesser stressful life (Cagnie et al., 2007). Another researcher found association between neck pain and stress. The odd ratio he found for higher stress level was 6.4 and 95% confidence interval was 3.1 to 13.00 (Viikari et al., 2001). Researcher showed in this study that people who lead high stressful life are having more neck pain than people who lead less stressful life. Among 50 people 86% people mentioned low stress and 14% mentioned high stress who had neck pain.

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).

Limitation

Due to the short time to the full research, it was not possible to collect data on more. So that I collected 50 data in face-to-face interview. Maybe it would be possible to find more factors related to neck pain if we could collect more data. The researcher had to collect more and more data.

CHAPTER –VI CONCLUSION AND RECOMMENDATION

6.1 Conclusion

The researcher conducted this study with 50 participants. In the case group, there were 25 participants and in the control group, there were 25 participants. 14% of people were between 20-25years old, 20% from 26-30 years, 30% from 31-35,12% from 36-40,18% from 41-45and 6% people from 51-55years of age. Among them, 10% of people were from urban areas, 52% from rural and 38% from the semirural areas. 92% of people were undergraduates whereas only 8% of people were graduates. The mean± SD of BMI was 0.66± 0.917. The BMI of the case group were about (mean± SD = 1.72±0.936) and for the control group the BMI were (mean± SD = 1.56±0.917). Of 50 participants 26% of people like to do gardening, 8% likes reading, 62% watch television and the rest 4% likes fishing. In the case and control group, the percentages of their hobby are gardening (28%, 24%), reading a book (4%, 12%), watching television (68%, 56%) and fishing (0%, 8%). Among all the participants 86% (n=43) felt low stress, 14% (n=7) medium stress. In the case group 80% felt low, 20% medium. In the control group, 92% felt low, 8% medium. About 30% of people maintain their posture and 70% of people don't maintain their posture correctly during activity. This study was done to evaluate factors that are associated with mechanical neck pain. The factors that have been found associated with mechanical neck pain are BMI, Same work, helping hand, stove position, watching TV, repetitive neck movement and maintain position. A significant level was found (P= <.05)

6.2 Recommendation

After completing the study, the researcher found some issues regarding this study. The researcher should take more sampling to conduct the study and to increase the reliability and validity of the study. A structured question is needed to know the depth of the relation of variables with mechanical neck pain. After that researchers could make a decision about the risk factors.

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Appendix

VERBAL CONSENT STATEMENT

(Please read out to the participants)

Assalamualaikum/Namasker, My name is Sanjida Akter Anu, I am conducting this study for a B.Sc in Physiotherapy project study dissertation titled **"Risk Factors of Mechanical Neck pain among the House Wife"** under Bangladesh Health Professions Institute (BHPI), University of Dhaka. I would like to know about some personal and other related information regarding unilateral lower limb amputation. You will perform some tasks which are mention in this form. This will take approximately 30-40 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 this area Muscles Skleter Unit (M S) savar area, so your participation in the research will have no impact on your present or future treatment in M.S Unit and Savar area .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 and also all information will be destroyed after completion of the study. 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, researcher and/or my supervisor **Mst. Fatema Akter**, Assistant Professor Department of Physiotherapy, BHPI, CRP, Savar, Dhaka.

Do you have any questions before I start?
So, may I have your consent to proceed with the interview or work? Yes ☐

N0 ☐

Signature of the Participant _____

Signature of the Interviewer

মৌখিক সম্মতি পত্র

আসসালামু আলাইকুম,

আমি সানজিদা আক্তার অনু বিএসসি ৪র্থ বর্ষের (অনার্স) ঢাকা বিশ্ববিদ্যালয়ের মেডিসিন অনুষদের অধীনে বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউটের (বিএইচপিআই) ফিজিওথেরাপির ছাত্রী। আমার ব্যাচেলর ডিগ্রী পেতে, আমাকে একটি গবেষণা পরিচালনা করতে হবে এবং এটি আমার অধ্যয়নের একটি অংশ। অংশগ্রহণকারীদের নিম্নলিখিত পড়ার পরে গবেষণায় অংশগ্রহণের জন্য অনুরোধ করা হচ্ছে।

আমার গবেষণার শিরোনাম হল "**গৃহবধূদের মধ্যে যান্ত্রিক ঘাড় ব্যথার ঝুঁকির কারণ**"। এই গবেষণার মাধ্যমে আমি উক্ত সম্পর্কিত কারণগুলি অনুসন্ধান করব।

আমার গবেষণা প্রকল্প বাস্তবায়নের জন্য, আমাকে গৃহবধূদের কাছ থেকে ডেটা সংগ্রহ করতে হবে। অতএব, আপনি অধ্যয়নের জন্য আমার মূল্যবান বিষয় হতে পারেন এবং আমি আপনাকে আমার অধ্যয়নের অংশগ্রহণকারী হিসাবে অনুরোধ করতে চাই। আমি প্রতিশ্রুতিবদ্ধ যে অধ্যয়ন আপনার কাছে পোজ বা কোন ক্ষতি করবে না।

আমি আপনাকে জানাতে চাই যে এটি একটি সম্পূর্ণরূপে একাডেমিক অধ্যয়ন এবং অন্য কোন উদ্দেশ্যে ব্যবহার করা হবে না আমি আশ্বাস দিচ্ছি যে সমস্ত তথ্য গোপন রাখা হবে। আপনার অংশগ্রহণ স্বেচ্ছায় হবে। আপনার কোনো দ্বিধা বা ঝুঁকি ছাড়াই অংশগ্রহণের ৭ দিনের মধ্যে সম্মতি প্রত্যাহার এবং অংশগ্রহণ বন্ধ করার অধিকার আছে।

অধ্যয়ন সম্পর্কে আপনার যদি কোন প্রশ্ন থাকে অংশগ্রহণকারী হিসাবে, আপনি আমার সাথে টেলিফোনে যোগাযোগ করতে পারেন (০১৮৭৮২৩৯৮০৪) অথবা আমার সুপারভাইজার ফাতেমা আক্তার লোপা, সহকারী অধ্যাপক, বিভাগ ফিজিওথেরাপি, বিএইচপিআই সাভার, ঢাকা সাথে যোগাযোগ করতে পারেন ।

আমি শুরু করার আগে আপনার কোন প্রশ্ন আছে?

তাহলে, ইন্টারভিউ নিয়ে এগিয়ে যেতে আমি কি আপনার সম্মতি পেতে পারি?

হ্যাঁ.....

না.....

অংশগ্রহণকারীর স্বাক্ষরঃ ..... তারিখ.....

তথ্যসংগ্রহকারীর স্বাক্ষরঃ ..... তারিখ.....

গবেষকের স্বাক্ষরঃ ..... তারিখ.....

Title: Risk factors of mechanical neck pain among Housewives

Questionnaire for case group

Part - 1: Participant's identification

1.1	Participants Identification No.
1.2	Participant's Name:
1.3	Address: Village: Post-office: Thana: District:
1.4	Contact number:
1.5	Date of interview:
1.6	Consent from taken: Yes: No;

Part – 2: Socio-demographic Information

NO	Questions	Variables	Answer
2.1	Age(years)		
2.2	What is your educational status?	1.Ilitarate 2.primary 3.S.S.C. 4.H.S.C. 5.Graduate.	
2.3	What is your hobby?	1. Gardening 2. Reading 3 Watching TV 4. Fishing	
2.4	Residential area:	1. Rural 2. Urban 3. Semirural	

Part – 3: Behavior, lifestyle and co-morbidity

3.1	What is your self-perceived stress?	1. Low 2. Medium 3. High	
3.2	Height (ft)		
3.3	Body weight (kg)		
3.4	BMI:	1.17-19 2.19-21 3.21-24 4.24+	

Part – 4: Physical factors

4.1	How long do you take physical exercise in a week?		
4.2	Do you same work in a day?	1.Yes 2.No	
4.3	Do you have any helping hand?	1.Yes 2.No	
4.4	How is your stove position?	1.Above 2.Below	
4.5	Do you take care your old father and mother?	1.Yes 2.No	
4.6	How long do you use your mobile phone per day?		
4.7	How long do you watch television in a day?		
4.8	Do you clean Your room?	1.Yes 2.No	
4.9	Do you do repetitive neck movement?	1.Yes 2.No	
4.10	Do you maintain your posture correctly?	1.Yes 2.No	
4.11	Do you take any medicine?	1.Yes 2.No	
4.12	Do you take any Physiotherapy treatment?	1.Yes 2.No	
4.13	How many physiotherapy season do you take?		
4.14	Do you have any sleeping problem for the neck pain?	1.yes 2.No	

Part – 5: Characteristics of Neck pain

5.1	Do you have neck pain?	1.Yes 2.No	
5.2	Do you currently have any feelings of discomfort in your neck/arm/hand?	1.Yes 2.No	
5.3	What do you think is the cause of your neck pain?	1. Prolong working 2. Watching TV 3. Posture assumed during working 4. Prolong sitting 5. Type of pillow used when sleeping	
5.4	Does your neck pain limit you from	1. Sleeping 2. working 3. Concentrating on any work 4. Social recreational activity 5. Not limiting any activity	

Part – 6: Functional Test

Pain numeric rating scale is a scale that is used to measure pain intensity. It is on a scale of 0 to 10. Where 0 indicates no pain, 5 indicates moderate pain and 10 indicates severe pain.

Rate your neck pain on a scale of (0–10) pain numeric rating scale-

Scale	Answer
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Level of Pain

Scale	Answer
Mild	
Moderate	
Sever	

Neck Disability Index

This questionnaire has been designed to give us information as to how your neck pain has affected your ability to manage in everyday life. Please answer every section and mark in each section only the one box that applies to you. We realize you may consider that two or more statements in any one section relate to you, but please just mark the box that most closely describes your problem.

1.	Pain intensity	1. I have no pain now 2. The pain is very mild now 3. The pain is moderate now 4. The pain is fairly severe now 5. The pain is very severe now 6. The pain is the worst imaginable now.	
2.	Personal care (washing, dressing etc.)	1. I can look after myself normally without causing extra pain 2. I can look after myself normally, but it causes extra pain 3. It is painful to look after myself and I am slow and careful 4. I need some help but can manage most of my personal care 5. I need help every day in most aspects of self-care 6. I do not get dressed, I wash with difficulty and stay in bed.	
3.	Lifting	1. I can lift heavy weights without extra pain 2. I can lift heavy weights, but it gives extra pain 3. Pain prevents me lifting heavy weights off the floor, but I can manage if they are conveniently placed, for example on a table.	

		4. Pain prevents me from lifting heavy weights, but I can manage light to medium weights if they are conveniently positioned 5. I can only lift very light weights 6. I cannot lift or carry anything	
4.	Headaches	1. I have no headaches at all 2. I have slight headaches, which come infrequently 3. I have moderate headaches, which come infrequently. 4. I have moderate headaches, which come frequently 5. I have severe headaches, which come frequently 6. I have headaches almost all the time.	
5.	Concentration	1. I can concentrate fully when I want to with no difficulty. 2. I can concentrate fully when I want to with slight difficulty. 3. I have a fair degree of difficulty in concentrating when I want to 4. I have a lot of difficulty in concentrating when I want to 5. I have a great deal of difficulty in concentrating when I want to 6. I cannot concentrate at all.	
6.	Work	1. I can do as much work as I want to 2. I can only do my usual work, but no more 3. I can do most of my usual work, but no more 4. I cannot do my usual work 5. I can hardly do any work at all 6. I can't do any work at all.	
7.	Driving	1. I can drive my car without any neck pain 2. I can drive my car if I want with slight pain in my neck 3.I can drive my car if I want with moderate pain in my neck 4. I can't drive my car if I want because of moderate pain in my neck. 5. I can hardly drive at all because of severe pain in my neck	

		6. I can't drive my car at all.	
8.	Sleeping	1. I have no trouble sleeping 2. My sleep is slightly disturbed (less than 1hr sleepless) 3. My sleep is mildly disturbed (1-2hrs sleepless) 4. My sleep is moderately disturbed (2-3hrs sleepless) 5. My sleep is greatly disturbed (3-5hrs sleepless) 6. My sleep is completely disturbed (5-7hrs sleepless).	
9.	Recreation	1. I can engage in all my recreation activities with no neck pain at all 2. I can engage in all my recreation activities, with some pain in my neck 3. I can engage in most, but not all of my usual recreation activities because of pain in my neck. 4. I can engage in a few of my usual recreation activities because of pain in my neck 5. I can hardly do any recreation activities because of pain in my neck 6. I can't do any recreation activities at all.	
		Total sore	

পাঠ-১ রুগী সনাক্তকরণ

১.১	রুগী আইডি নং:
১.২	রুগীর নাম:
১.৩	ঠিকানা গ্রাম: পোস্ট-অফিস: থানা: জেলা :
১.৪	মোবাইল নং:
১.৫	ইনর্টারভিউ এর তারিখ :
১.৬	সম্মতি পত্র : ১.হ্যাঁ ২.না

পাঠ -২: সামাজিক জনসংখ্যা সংক্রান্ত তথ্য

নং	প্রশ্ন	পরিবর্তনশীল	উত্তর
২.১	বয়স (বছর)		
২.২	আপনার শিক্ষাগত যোগ্যতা কি	১.অশিক্ষিত ২.প্রাথমিক ৩.এস.এস.সি. ৪.এইস.এস.সি. ৫.সন্মানা	
২.৩	আপনার শখ কি কি?	১.বাগান করা ২.পড়া ৩.টিভি দেখা ৪.মাছ ধরা	
২.৪	আপনি কেমন এলাকায় বসবাস করেন?	১.শহর ২.গ্রাম ৩.উপশহর	

পাঠ -৩: আচরণ, জীবনধারা এবং সহ-অসুস্থতা

৩.১	আপনার নিজস্ব অনুভূতি গুলো কেমন	১.হালকা ২.মাঝামাঝি ৩.অনেক	
৩.২	উচ্চতা (ফিট)		
৩.৩	ওজন (কেজি)		
৩.৪	বি এম আই:	১.১৭-১৯ ২.১৯-২১ ৩.২১-২৪ ৪.২৪+	

পাঠ-৪: শারীরিক কারণ

৪.১	সপ্তাহে আপনি কত সময় শারীরিক ব্যয়াম করেন?		
৪.২	আপনি কি সারা দিনে একই রকম কাজ করেন?	১.হ্যাঁ ২.না	
৪.৩	আপনাকে সাহায্য করার জন্য অন্য কেউ কি আছে?	১.হ্যাঁ ২.না	
৪.৪	আপনার রান্নার চুল কোথায় অবস্থিত?	১.উপরে ২.নিচে	
৪.৫	আপনি কি বয়স্ক বাবা মার সেবাযত্ন করেন ?	১.হ্যাঁ ২.না	
৪.৬	আপনি প্রতি দিন কত সময় আপনার মোবাইল ফোন টি ব্যবহার করেন?		
৪.৭	আপনি কত সময় টিভি দেখেন?	১.১-২ ঘন্টা ২.২-৩ ঘন্টা ৩.৩-৪ ঘন্টা	
৪.৮	আপনি কি আপনার রুম পরিষ্কার করেন?	১.হ্যাঁ ২.না	
৪.৯	আপনি কি বারবার আপনার ঘাড় নাড়াচাড়া করেন?	১.হ্যাঁ ২.না	
৪.১০	আপনি কি আপনার সঠিক অবস্থান ধরে রাখেন?	১.হ্যাঁ ২.না	
৪.১১	আপনি কি কোনও ঔষধ খেয়েছেন	১হ্যাঁ ২.না	

৪.১২	আপনি কি কোনও ফিজিওথেরাপি চিকিৎসা নিয়েছেন?	১.হ্যাঁ ২.না	
৪.১৩	আপনি কতো গুলো ফিজিওথেরাপি চিকিৎসা নিয়েছেন?		
৪.১৪	আপনার কি ঘুমের কোনো সমস্যা হয় ঘাড়ের ব্যথার জন্য	১.হ্যাঁ ২.না	

পাঠ -৫: ঘাড়ের ব্যথার বৈশিষ্ট্য

৫.১	আপনার কি ঘাড়ের ব্যথা আছে?	১.হ্যাঁ ২.না	
৫.২	আপনি কি কয়েক দিনের মধ্যে আপনার ঘাড়ে/বাহুতে/মাথায় অসুবিধা অনুভব করেছেন?	১.হ্যাঁ ২.না	
৫.৩	আপনার এই ঘাড়ের ব্যাথার জন্য আপনি কি কারণ মনে করছেন?	১.অনেক সময় কাজ করা ২.টিভি দেখা ৩.কাজের সময় অবস্থান ঠিক না রাখা ৪.অনেক সময় বসে থাকা ৫.ঘুমের সময় বালিশের ধরনের জন্য	
৫.৪	ঘাড়ের ব্যথা জন্য আপনার কি কি কম হচ্ছে?	১.ঘুম ২.কাজ ৩.কোনো কাজে মনোযোগ কম ৪.সামাজিক কাজ ৫.কোনো কাজেই কম হচ্ছে না	

পাঠ-৬: কার্যকরী টেস্ট

ব্যথা সংখ্যাসূচক রেটিং স্কেল হল একটি স্কেল যা ব্যথার তীব্রতা পরিমাপ করতে ব্যবহৃত হয়।এটি ০ থেকে ১০ এর একটি স্কেল। যেখানে ০ কোন ব্যথা নির্দেশ করে না,৫ মাঝারি ব্যথা নির্দেশ করে,এবং ১০ গুরুত্বর ব্যথা নির্দেশ করে।

আপনার ঘাড়ের ব্যথাকে (০-১০) ব্যথা সংখ্যাসূচক রেটিং স্কেলে রেট করুন-

স্কেল	উত্তর
০	
১	
২ ৩ ৪ ৫ ৬ ৭ ৮. ৯ ১০	

ব্যথার মাত্রা

স্কেল	উত্তর
হালকা	
মাঝারি	
অতিরিক্ত	

ঘাড়ের অক্ষমতা সূচক

আপনার ঘাড়ের ব্যথা কীভাবে দৈনন্দিন জীবনে পরিচালনা করার ক্ষমতাকে প্রভাবিত করছে সে সম্পর্কে আমাদের তথ্য দেওয়ার জন্য এই প্রশ্নপএটি ডিজাইন করা হয়েছে। অনুগ্রহ করে প্রতিটি বিভাগে উত্তর দিন এবং প্রতিটি বিভাগে শুধু মাত্র একটি বক্স চিহ্নিত করুন যা আপনার ক্ষেত্রে প্রযোজ্য।আমরা বুঝতে পারছি যে আপনি বিবেচনা করতে পারেন যে কোনো একটি বিভাগে দুই বা ততোধিক বিবৃতি আপনার সাথে সম্পর্কির্ত,কিন্তু অনুগ্রহ করে শুধু সেই বক্সটি তে চিহ্নিত করুন যা আপনার সমস্যা টিকে সবচেয়ে ঘনিষ্ঠ ভাবে বর্ণনা করে।

১.	ব্যথার তীব্রতা:	১.এখন কোনো ব্যথা নাই ২.এখন অনেক হালকা ব্যথা আছে ৩.এখন একটু বেশি ব্যথা আছে ৪.এখন আরও একটু বেশি ব্যথা আছে ৫.এখন অনেক ব্যথা ৬.ব্যথা এখন অনেক খারাপ এর দিকে যাচ্ছে।	
২.	ব্যক্তিগত যত্ন(কাপড় পরা,ধোয়া ইত্যাদি)	১.কোনো ব্যথা ছাড়াই সাধারণত আমি আমার যত্ন নিতে পারি। ২.সাধারণত আমি আমার যত্ন নিতে পারি কিন্তু একটা বারতি ব্যথা পাই। ৩.আমার যত্ন নেওয়াটা আমার জন্য কষ্টকর আমি অনেক আসতে এবং যত্ন নিয়ে কাজ করি। ৪.আমার কাজ করতে একটু সাহায্য লাগে কিন্তু আমি করতে পারি। ৫.আমার নিজের কাজ করতে আমার অনেক সাহায্য লাগে। ৬.আমি নিজে নিজে কাপড় পারতে পারি না এবং বিছানায় থাকতে ও পারি না।	
৩.	স্থানান্তর	১.আমি কোনো ব্যথা ছাড়াই ভারী বস্তু তুলতে পারি। ২.আমি ভারী বস্তু তুলতে পারি কিন্তু আমার একটু ব্যথা হয়। ৩. ব্যথা আমাকে মেঝে থেকে ভারী বস্তু তুলতে বাধা দেয় কিন্তু আমি একটু উঁচুতে হলে পারি। ৪.ব্যথা আমাকে মেঝে থেকে ভারী বস্তু তুলতে বাধা দেয় কিন্তু একটু কম উঁচু হলে আমি তুলতে পারি।	

		৫.যদি কম ভারীর বস্তু হয় তবে আমি তুলতে পারি । ৬.আমি কোনো কিছু তুলতে পারি না।	
৪.	মাথা ব্যথা:	১.আমার কোনো মাথাব্যথা নেই। ২.আমার একটু মাথাব্যথা আছে যা মাঝে মাঝে আসে। ৩.আমার একটু বেশি মাথাব্যথা আছে যা মাঝে মাঝে আসে। ৪.আমার অনেক মাথাব্যথা আছে যা মাঝে মাঝে আসে। ৫.আমার মাথাব্যথা আছে যা সব সময় থাকে।	
৫.	মনোযোগ	১.যখন আমি চাই তখন আমি ফুল মনোযোগ দিয়ে কাজ করতে পারি কোনো অসুবিধা হয় না। ২.যখন আমি চাই তখন ফুল মনোযোগ দিয়ে কাজ করতে পারি কিন্তু আমার একটু অসুবিধা হয়। ৩.আমি চাইলেও ফুল মনোযোগ দিয়ে কাজ করতে পারি না। ৪আমার অসুবিধা হয় মনোযোগ দিয়ে কাজ করতে। ৫.আমার অনেক অসুবিধা হয় মনোযোগ দিয়ে কাজ করতে। ৬.আমি মনোযোগ দিয়ে কোনো কাজ করতে পারি না।	
৬.	কাজ	১.আমি যেভাবে চাই কাজ করতে পারি ২.আমি শুধু সাধারণ সব কাজ গুলো করতে পারি কিন্তু বেশি কাজ করতে পারি না। ৩.আমি আমার কিছু সাধারণ কাজ করতে পারি কিন্তু এর বেশি পারি না। ৪.আমি আমার সাধারণ কাজ গুলো করতে পারি না। ৫.আমার কাজ করতে অনেক কষ্ট হয়। ৬.আমি কোনো কাজ করতে পারি না।	
৭.	গাড়ি চালানো	১.কোনো ঘাড়ের ব্যথা ছাড়াই আমি গাড়ি চালাতে পারি। ২.আমি গাড়ি চালাতে পারি কিন্তু আমার একটু ঘাড়ে ব্যথা হয় ৩.আমি গাড়ি চালাতে পারি কিন্তু আমার একটু বেশি ঘাড়ে ব্যথা হয়।	

		৪.আমার ঘাড়ে ব্যথার জন্য আমি গাড়ি চালাতে পারি না। ৫.গাড়ি চালাতে আমার অনেক কষ্ট হয় ৬.আমি গাড়ি চালাতে পারি না।	
৮.	ঘুম	১.আমার ঘুমের কোনো সমস্যা হয় না। ২.আমার ঘুমের অল্প একটু সমস্যা হয় (১ ঘন্টারও কম) ৩.আমার ঘুমের একটু সমস্যা হয় (১-২ ঘন্টা) ৪.আমার ঘুমের একটু বেশি সমস্যা হয় (২-৩ঘন্টা) ৫.আমার ঘুমের অনেক সমস্যা হয় (৩-৫ ঘন্টা) ৬.আমার ঘুমের সম্পূর্ণ সমস্যা হয় (৫-৭ ঘন্টা)	
৯.	বিনোদন	১.ঘাড়ের ব্যথা ছাড়া আমি সম্পূর্ণ বিনোদন করতে পারি। ২.আমি অল্প একটু ঘাড়ের ব্যথা নিয়ে বিনোদন করতে পারি। ৩.আমার ঘাড়ের ব্যথার জন্য আমি বিনোদনে থাকার পরও বিনোদন করতে পারি না। ৪. আমার ঘাড়ের ব্যথার জন্য আমি অল্প কিছু বিনোদনে থাকতে পারি না। ৫.আমার ঘাড়ের ব্যথার জন্য কোনো বিনোদনে থাকাটা আমার জন্য অনেক কষ্ট হয়ে যায়। ৬.আমার ঘাড়ের ব্যথার জন্য আমি কোনো বিনোদনে থাকতে পারি না।	
		সম্পূর্ণ ফলাফল	

Appendix

VERBAL CONSENT STATEMENT

(Please read out to the participants)

Assalamualaikum/Namasker, My name is Sanjida Akter Anu, I am conducting this study for a B.Sc in Physiotherapy project study dissertation titled **"Risk Factors of Mechanical Neck pain among the House Wife"** under Bangladesh Health Professions Institute (BHPI), University of Dhaka. I would like to know about some personal and other related information regarding unilateral lower limb amputation. You will perform some tasks which are mention in this form. This will take approximately 30-40 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 this area Muscles Skleter Unit (M S) savar area, so your participation in the research will have no impact on your present or future treatment in M.S Unit and Savar area .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 and also all information will be destroyed after completion of the study. 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, researcher and/or my supervisor **Mst. Fatema Akter**, Assistant Professor Department of Physiotherapy, BHPI, CRP, Savar, Dhaka.

Do you have any questions before I start?
So, may I have your consent to proceed with the interview
or work?Yes ☐

N0 ☐

Signature of the Participant _____

Signature of the Interviewer

মৌখিক সম্মতি পত্র

সালামু আলাইকুম,

ি সানজিদা আক্তার অনু বিএসসি ৪র্থ বর্ষের (অনার্স) ঢাকা বিশ্ববিদ্যালয়ের মেডিসিন অনুষদের অধীনে বাংলাদেশ হেলথ শনস ইনস্টিটিউটের (বিএইচপিআই) ফিজিওথেরাপির ছাত্রী। আমার ব্যাচেলর ডিগ্রী পেতে, আমাকে একটি গবেষণা চালনা করতে হবে এবং এটি আমার অধ্যয়নের একটি অংশ। অংশগ্রহণকারীদের নিম্নলিখিত পড়ার পরে গবেষণায় শগ্রহণের জন্য অনুরোধ করা হচ্ছে।

মার গবেষণার শিরোনাম হল **"গৃহবধূদের মধ্যে যান্ত্রিক ঘাড় ব্যথার ঝুঁকির কারণ"**। এই গবেষণার মাধ্যমে আমি উক্ত র্কিত কারণগুলি অনুসন্ধান করব।

মার গবেষণা প্রকল্প বাস্তবায়নের জন্য, আমাকে গৃহবধূদের কাছ থেকে ডেটা সংগ্রহ করতে হবে। অতএব, আপনি য়েনের জন্য আমার মূল্যবান বিষয় হতে পারেন এবং আমি আপনাকে আমার অধ্যয়নের অংশগ্রহণকারী হিসাবে অনুরোধ তে চাই। আমি প্রতিশ্রুতিবদ্ধ যে অধ্যয়ন আপনার কাছে পোজ বা কোন ক্ষতি করবে না।

মি আপনাকে জানাতে চাই যে এটি একটি সম্পূর্ণরূপে একাডেমিক অধ্যয়ন এবং অন্য কোন উদ্দেশ্যে ব্যবহার করা হবে না মি আশ্বাস দিচ্ছি যে সমস্ত তথ্য গোপন রাখা হবে। আপনার অংশগ্রহণ স্বেচ্ছায় হবে। আপনার কোনো দ্বিধা বা ঝুঁকি ছাড়াই শগ্রহণের ৭ দিনের মধ্যে সম্মতি প্রত্যাহার এবং অংশগ্রহণ বন্ধ করার অধিকার আছে।

য়েন সম্পর্কে আপনার যদি কোন প্রশ্ন থাকে অংশগ্রহণকারী হিসাবে, আপনি আমার সাথে টেলিফোনে যোগাযোগ করতে রেন (০১৮৭৮২৩৯৮০৪) অথবা আমার সুপারভাইজার ফাতেমা আক্তার লোপা, সহকারী অধ্যাপক, বিভাগ ফিজিওথেরাপি, এইচপিআই সাভার, ঢাকা সাথে যোগাযোগ করতে পারেন ।

মি শুরু করার আগে আপনার কোন প্রশ্ন আছে?

হলে, ইন্টারভিউ নিয়ে এগিয়ে যেতে আমি কি আপনার সম্মতি পেতে পারি?

হ্যাঁ..... না.....

শগ্রহণকারীর স্বাক্ষরঃ ..... তারিখ.....

্যসংগ্রহকারীর স্বাক্ষরঃ ..... তারিখ.....

বেষকের স্বাক্ষরঃ ..... তারিখ.....

Title: Risk factors of mechanical neck pain among Housewives

Questionnaire for control group

Part - 1: Participant's identification

1.1	Participants Identification No.
1.2	Participant's Name:
1.3	Address: Village: Post-office: Thana: District:
1.4	Contact number:
1.5	Date of interview:
1.6	Consent from taken: Yes: No;

Part – 2: Socio-demographic Information

NO	Questions	Variables	Answer
2.1	Age(years)		
2.2	What is your educational status?	1.Ilitarate 2.primary 3.S.S.C. 4.H.S.C. 5.Graduate.	
2.3	What is your hobby?	1. Gardening 2. Reading 3 Watching TV 4. Fishing	
2.4	Residential area:	1. Rural 2. Urban 3. Semirural	

Part – 3: Behavior, lifestyle and co-morbidity

3.1	What is your self-perceived stress?	1. Low 2. Medium 3. High	
3.2	Height (ft)		
3.3	Body weight (kg)		
3.4	BMI:	1.17-19 2.19-21 3.21-24 4.24+	

Part – 4: Physical factors

4.1	How long do you take physical exercise in a week?		
4.2	Do you same work in a day?	1.Yes 2.No	
4.3	Do you have any helping hand?	1.Yes 2.No	
4.4	How is your stove position?	1.Above 2.Below	
4.5	Do you take care your old father and mother?	1.Yes 2.No	
4.6	How long do you use your mobile phone per day?		
4.7	How long do you watch television in a day?		
4.8	Do you clean Your room?	1.Yes 2.No	
4.9	Do you do repetitive neck movement?	1.Yes 2.No	
4.10	Do you maintain your posture correctly?	1.Yes 2.No	
4.11	Do you take any medicine?	1.Yes 2.No	
4.12	Do you take any Physiotherapy treatment?	1.Yes 2.No	
4.13	How many physiotherapy season do you take?		

4.14	Do you have any sleeping problem for the neck pain?	1.yes 2.No	

Part – 5: Characteristics of Neck pain

5.1	Do you have neck pain?	1.Yes 2.No	
5.2	Do you currently have any feelings of discomfort in your neck/arm/hand?	1.Yes 2.No	
5.3	What do you think is the cause of your neck pain?	1. Prolong working 2. Watching TV 3. Posture assumed during working 4. Prolong sitting 5. Type of pillow used when sleeping	
5.4	Does your neck pain limit you from	1. Sleeping 2. working 3. Concentrating on any work 4. Social recreational activity 5. Not limiting any activity	

Neck Disability Index

This questionnaire has been designed to give us information as to how your neck pain has affected your ability to manage in everyday life. Please answer every section and mark in each section only the one box that applies to you. We realize you may consider that two or more statements in any one section relate to you, but please just mark the box that most closely describes your problem.

1.	Pain intensity	1. I have no pain now 2. The pain is very mild now 3. The pain is moderate now 4. The pain is fairly severe now 5. The pain is very severe now 6. The pain is the worst imaginable now.	
2.	Personal care (washing, dressing etc.)	1. I can look after myself normally without causing extra pain 2. I can look after myself normally, but it causes extra pain 3. It is painful to look after myself and I am slow and careful 4. I need some help but can manage most of my personal care 5. I need help every day in most aspects of self-care 6. I do not get dressed, I wash with difficulty and stay in bed.	
3.	Lifting	1. I can lift heavy weights without extra pain 2. I can lift heavy weights, but it gives extra pain 3. Pain prevents me lifting heavy weights off the floor, but I can manage if they are conveniently placed, for example on a table. 4. Pain prevents me from lifting heavy weights, but I can manage light to medium weights if they are conveniently positioned 5. I can only lift very light weights 6. I cannot lift or carry anything	

4.	Headaches	1. I have no headaches at all 2. I have slight headaches, which come infrequently 3. I have moderate headaches, which come infrequently. 4. I have moderate headaches, which come frequently 5. I have severe headaches, which come frequently 6. I have headaches almost all the time.	
5.	Concentration	1. I can concentrate fully when I want to with no difficulty. 2. I can concentrate fully when I want to with slight difficulty. 3. I have a fair degree of difficulty in concentrating when I want to 4. I have a lot of difficulty in concentrating when I want to 5. I have a great deal of difficulty in concentrating when I want to 6. I cannot concentrate at all.	
6.	Work	1. I can do as much work as I want to 2. I can only do my usual work, but no more 3. I can do most of my usual work, but no more 4. I cannot do my usual work 5. I can hardly do any work at all 6. I can't do any work at all.	
7.	Driving	1. I can drive my car without any neck pain 2. I can drive my car if I want with slight pain in my neck 3.I can drive my car if I want with moderate pain in my neck 4. I can't drive my car if I want because of moderate pain in my neck. 5. I can hardly drive at all because of severe pain in my neck 6. I can't drive my car at all.	
8.	Sleeping	1. I have no trouble sleeping 2. My sleep is slightly disturbed (less than 1hr sleepless) 3. My sleep is mildly disturbed (1-2hrs sleepless)	

		4. My sleep is moderately disturbed (2-3hrs sleepless) 5. My sleep is greatly disturbed (3-5hrs sleepless) 6. My sleep is completely disturbed (5-7hrs sleepless).	
9.	Recreation	1. I can engage in all my recreation activities with no neck pain at all 2. I can engage in all my recreation activities, with some pain in my neck 3. I can engage in most, but not all of my usual recreation activities because of pain in my neck. 4. I can engage in a few of my usual recreation activities because of pain in my neck 5. I can hardly do any recreation activities because of pain in my neck 6. I can't do any recreation activities at all.	
		Total sore	

পাঠ-১ রুগী সনাক্তকরণ

১.১	রুগী আইডি নং:
১.২	রুগীর নাম:
১.৩	ঠিকানা গ্রাম: পোস্ট-অফিস: থানা: জেলা :
১.৪	মোবাইল নং:
১.৫	ইনর্টারভিউ এর তারিখ :
১.৬	সম্মতি পত্র : ১.হ্যাঁ ২.না

পাঠ -২: সামাজিক জনসংখ্যা সংক্রান্ত তথ্য

নং	প্রশ্ন	পরিবর্তনশীল	উত্তর
২.১	বয়স (বছর)		
২.২	আপনার শিক্ষাগত যোগ্যতা কি	১.অশিক্ষিত ২.প্রাথমিক ৩.এস.এস.সি. ৪.এইস.এস.সি. ৫.সন্মানা	
২.৩	আপনার শখ কি কি?	১.বাগান করা ২.পড়া ৩.টিভি দেখা ৪.মাছ ধরা	
২.৪	আপনি কেমন এলাকায় বসবাস করেন?	১.শহর ২.গ্রাম ৩.উপশহর	

পাঠ -৩: আচরণ, জীবনধারা এবং সহ-অসুস্থতা

৩.১	আপনার নিজস্ব অনুভূতি গুলো কেমন	১.হালকা ২.মাঝামাঝি ৩.অনেক	
৩.২	উচ্চতা (ফিট)		
৩.৩	ওজন (কেজি)		
৩.৪	বি এম আই:	১.১৭-১৯ ২.১৯-২১ ৩.২১-২৪ ৪.২৪+	

পাঠ-৪: শারীরিক কারণ

৪.১	সপ্তাহে আপনি কত সময় শারীরিক ব্যয়াম করেন?		
৪.২	আপনি কি সারা দিনে একই রকম কাজ করেন?	১.হ্যাঁ ২.না	
৪.৩	আপনাকে সাহায্য করার জন্য অন্য কেউ কি আছে?	১.হ্যাঁ ২.না	
৪.৪	আপনার রান্নার চুল কোথায় অবস্থিত?	১.উপরে ২.নিচে	
৪.৫	আপনি কি বয়স্ক বাবা মার সেবাযত্ন করেন ?	১.হ্যাঁ ২.না	
৪.৬	আপনি প্রতি দিন কত সময় আপনার মোবাইল ফোন টি ব্যবহার করেন?		
৪.৭	আপনি কত সময় টিভি দেখেন?	১.১-২ ঘন্টা ২.২-৩ ঘন্টা ৩.৩-৪ ঘন্টা	
৪.৮	আপনি কি আপনার রুম পরিষ্কার করেন?	১.হ্যাঁ ২.না	
৪.৯	আপনি কি বারবার আপনার ঘাড় নাড়াচাড়া করেন?	১.হ্যাঁ ২.না	
৪.১০	আপনি কি আপনার সঠিক অবস্থান ধরে রাখেন?	১.হ্যাঁ ২.না	
৪.১১	আপনি কি কোনও ঔষধ খেয়েছেন	১হ্যাঁ ২.না	

৪.১২	আপনি কি কোনও ফিজিওথেরাপি চিকিৎসা নিয়েছেন?	১.হ্যাঁ ২.না	
৪.১৩	আপনি কতো গুলো ফিজিওথেরাপি চিকিৎসা নিয়েছেন?		
৪.১৪	আপনার কি ঘুমের কোনো সমস্যা হয় ঘাড়ের ব্যথার জন্য	১.হ্যাঁ ২.না	

পাঠ -৫: ঘাড়ের ব্যথার বৈশিষ্ট্য

৫.১	আপনার কি ঘাড়ের ব্যথা আছে?	১.হ্যাঁ ২.না	
৫.২	আপনি কি কয়েক দিনের মধ্যে আপনার ঘাড়ে/বাহুতে/মাথায় অসুবিধা অনুভব করেছেন?	১.হ্যাঁ ২.না	
৫.৩	আপনার এই ঘাড়ের ব্যাথার জন্য আপনি কি কারণ মনে করছেন?	১.অনেক সময় কাজ করা ২.টিভি দেখা ৩.কাজের সময় অবস্থান ঠিক না রাখা ৪.অনেক সময় বসে থাকা ৫.ঘুমের সময় বালিশের ধরনের জন্য	
৫.৪	ঘাড়ের ব্যথা জন্য আপনার কি কি কম হচ্ছে?	১.ঘুম ২.কাজ ৩.কোনো কাজে মনোযোগ কম ৪.সামাজিক কাজ ৫.কোনো কাজেই কম হচ্ছে না	

ঘাড়ের অক্ষমতা সূচক

আপনার ঘাড়ের ব্যথা কীভাবে দৈনন্দিন জীবনে পরিচালনা করার ক্ষমতাকে প্রভাবিত করছে সে সম্পর্কে আমাদের তথ্য দেওয়ার জন্য এই প্রশ্নপএটি ডিজাইন করা হয়েছে। অনুগ্রহ করে প্রতিটি বিভাগে উত্তর দিন এবং প্রতিটি বিভাগে শুধু মাত্র একটি বক্স চিহ্নিত করুন যা আপনার ক্ষেত্রে প্রযোজ্য।আমরা বুঝতে পারছি যে আপনি বিবেচনা করতে পারেন যে কোনো একটি বিভাগে দুই বা ততোধিক বিবৃতি আপনার সাথে সম্পর্কির্ত,কিন্তু অনুগ্রহ করে শুধু সেই বক্সটি তে চিহ্নিত করুন যা আপনার সমস্যা টিকে সবচেয়ে ঘনিষ্ঠ ভাবে বর্ণনা করে।

১.	ব্যথার তীব্রতা:	১.এখন কোনো ব্যথা নাই ২.এখন অনেক হালকা ব্যথা আছে ৩.এখন একটু বেশি ব্যথা আছে ৪.এখন আরও একটু বেশি ব্যথা আছে ৫.এখন অনেক ব্যথা ৬.ব্যথা এখন অনেক খারাপ এর দিকে যাচ্ছে।	
২.	ব্যক্তিগত যত্ন(কাপড় পরা,ধোয়া ইত্যাদি)	১.কোনো ব্যথা ছাড়াই সাধারণত আমি আমার যত্ন নিতে পারি। ২.সাধারণত আমি আমার যত্ন নিতে পারি কিন্তু একটা বারতি ব্যথা পাই। ৩.আমার যত্ন নেওয়াটা আমার জন্য কষ্টকর আমি অনেক আসতে এবং যত্ন নিয়ে কাজ করি। ৪.আমার কাজ করতে একটু সাহায্য লাগে কিন্তু আমি করতে পারি। ৫.আমার নিজের কাজ করতে আমার অনেক সাহায্য লাগে। ৬.আমি নিজে নিজে কাপড় পারতে পারি না এবং বিছানায় থাকতে ও পারি না।	
৩.	স্থানান্তর	১.আমি কোনো ব্যথা ছাড়াই ভারী বস্তু তুলতে পারি। ২.আমি ভারী বস্তু তুলতে পারি কিন্তু আমার একটু ব্যথা হয়। ৩. ব্যথা আমাকে মেঝে থেকে ভারী বস্তু তুলতে বাধা দেয় কিন্তু আমি একটু উঁচুতে হলে পারি। ৪.ব্যথা আমাকে মেঝে থেকে ভারী বস্তু তুলতে বাধা দেয় কিন্তু একটু কম উঁচু হলে আমি তুলতে পারি।	

		৫.যদি কম ভারীর বস্তু হয় তবে আমি তুলতে পারি । ৬.আমি কোনো কিছু তুলতে পারি না।	
৪.	মাথা ব্যথা:	১.আমার কোনো মাথাব্যথা নেই। ২.আমার একটু মাথাব্যথা আছে যা মাঝে মাঝে আসে। ৩.আমার একটু বেশি মাথাব্যথা আছে যা মাঝে মাঝে আসে। ৪.আমার অনেক মাথাব্যথা আছে যা মাঝে মাঝে আসে। ৫.আমার মাথাব্যথা আছে যা সব সময় থাকে।	
৫.	মনোযোগ	১.যখন আমি চাই তখন আমি ফুল মনোযোগ দিয়ে কাজ করতে পারি কোনো অসুবিধা হয় না। ২.যখন আমি চাই তখন ফুল মনোযোগ দিয়ে কাজ করতে পারি কিন্তু আমার একটু অসুবিধা হয়। ৩.আমি চাইলেও ফুল মনোযোগ দিয়ে কাজ করতে পারি না। ৪আমার অসুবিধা হয় মনোযোগ দিয়ে কাজ করতে। ৫.আমার অনেক অসুবিধা হয় মনোযোগ দিয়ে কাজ করতে। ৬.আমি মনোযোগ দিয়ে কোনো কাজ করতে পারি না।	
৬.	কাজ	১.আমি যেভাবে চাই কাজ করতে পারি ২.আমি শুধু সাধারণ সব কাজ গুলো করতে পারি কিন্তু বেশি কাজ করতে পারি না। ৩.আমি আমার কিছু সাধারণ কাজ করতে পারি কিন্তু এর বেশি পারি না। ৪.আমি আমার সাধারণ কাজ গুলো করতে পারি না। ৫.আমার কাজ করতে অনেক কষ্ট হয়। ৬.আমি কোনো কাজ করতে পারি না।	
৭.	গাড়ি চালানো	১.কোনো ঘাড়ের ব্যথা ছাড়াই আমি গাড়ি চালাতে পারি। ২.আমি গাড়ি চালাতে পারি কিন্তু আমার একটু ঘাড়ে ব্যথা হয় ৩.আমি গাড়ি চালাতে পারি কিন্তু আমার একটু বেশি ঘাড়ে ব্যথা হয়।	

		৪.আমার ঘাড়ে ব্যথার জন্য আমি গাড়ি চালাতে পারি না। ৫.গাড়ি চালাতে আমার অনেক কষ্ট হয় ৬.আমি গাড়ি চালাতে পারি না।	
৮.	ঘুম	১.আমার ঘুমের কোনো সমস্যা হয় না। ২.আমার ঘুমের অল্প একটু সমস্যা হয় (১ ঘন্টারও কম) ৩.আমার ঘুমের একটু সমস্যা হয় (১-২ ঘন্টা) ৪.আমার ঘুমের একটু বেশি সমস্যা হয় (২-৩ঘন্টা) ৫.আমার ঘুমের অনেক সমস্যা হয় (৩-৫ ঘন্টা) ৬.আমার ঘুমের সম্পূর্ণ সমস্যা হয় (৫-৭ ঘন্টা)	
৯.	বিনোদন	১.ঘাড়ের ব্যথা ছাড়া আমি সম্পূর্ণ বিনোদন করতে পারি। ২.আমি অল্প একটু ঘাড়ের ব্যথা নিয়ে বিনোদন করতে পারি। ৩.আমার ঘাড়ের ব্যথার জন্য আমি বিনোদনে থাকার পরও বিনোদন করতে পারি না। ৪. আমার ঘাড়ের ব্যথার জন্য আমি অল্প কিছু বিনোদনে থাকতে পারি না। ৫.আমার ঘাড়ের ব্যথার জন্য কোনো বিনোদনে থাকাটা আমার জন্য অনেক কষ্ট হয়ে যায়। ৬.আমার ঘাড়ের ব্যথার জন্য আমি কোনো বিনোদনে থাকতে পারি না।	
		সম্পূর্ণ ফলাফল	

বাংলাদেশ হেল্‌থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)
Bangladesh Health Professions Institute (BHPI)
(The Academic Institute of CRP)

Ref.

Date:

CRP/BHPI/IRB/03/2023/701

13/03/2023

To
Sanjida Akter Anu
B.Sc. in Physiotherapy,
Session: 2017-2018, DU Reg. No: 8640
BHPI, CRP, Savar, Dhaka- 1343, Bangladesh

Subject: Approval of the dissertation proposal **"Risk Factors of Mechanical Neck Pain among the Housewives"**- by ethics committee.

Dear
Sanjida Akter Anu,
Congratulations.
The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application to conduct the above-mentioned dissertation, with yourself, as the Principal Investigator Mst. Fatema Akter, Assistant Professor, Department of Physiotherapy as dissertation supervisor. The following documents have been reviewed and approved:

Sr. No.	Name of the Documents
1	Dissertation Proposal
2	Questionnaire (English and Bengali version)
3	Information sheet & consent form

The purpose of the study is to find out the Risk factors of Mechanical Neck Pain among the Housewives Should there any interpretation, typo, spelling, grammatical mistakes in the title, it is the responsibilities of the investigator. Since the study involves questionnaire that takes maximum 20- 25 minutes and have no likelihood of any harm to the participants. The members of the Ethics committee approved the study to be conducted in the presented form at the meeting held at 09:00 AM on January 9, 2023 at BHPI, 34th IRB Meeting.

The institutional Ethics committee expects to be informed about the progress of the study, any changes occurring in the course of the study, any revision in the protocol and patient information or informed consent and ask to be provided a copy of the final report. This Ethics committee is working accordance to Nuremberg Code 1947, World Medical Association Declaration of Helsinki, 1964 - 2013 and other applicable regulation.

Best regards,

Millat Hossain

Muhammad Millat Hossain
Associate Professor, Dept. of Rehabilitation Science
Member Secretary, Institutional Review Board (IRB) BHPI,
CRP, Savar, Dhaka-1343, Bangladesh

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