IMPACT OF LOW BACK PAIN ON QUALITY OF LIFE AMONG ELDERLY

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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

IMPACT OF LOW BACK PAIN ON QUALITY OF LIFE AMONG ELDERLY

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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 decline that same any publication, presentation or dissemination of information of the study. I would be bond to take written consent from the Physiotherapy department, Bangladesh Health Professions Institute (BHPI).

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CONTENTS

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Acronyms

BHPI: Bangladesh Health Professions Institute.

CRP: Centre for the Rehabilitation of the Paralyzed .

IASP: International Association for the Study of Pain

IRB: Institutional Review Board

LBP: Low Back Pain.

CLBP: Chronic Low Back Pain

CT: Computed Tomography

DDD: Degenerative Disc Disease

HTN: Hypertension

BMI: Body Max Index

MRI: Magnetic Resonance Imaging

QOL: Quality of Life

PT: Physiotherapist

SPSS: Statistical Package of Social Science

SF-36: Short Form-36

WHO: World Health Organization

BMRC: Bangladesh Medical and Research Council

List of Figures

List of Tables

Abstract

Purpose: The purpose of the study was to evaluate the impact of low back pain on quality of life (QOL) among elderly attended at musculoskeletal unit in CRP. Objectives*:* The objectives of this study were to explore the sociodemographic information such as age, gender, co-morbidity, occupation, type of pain, to investigate any association between age category, pain intensity and 8 domain of SF-36 over all health related quality of life among elderly with low back pain. Methodology: A cross sectional study was conducted with a semi structured questionnaire to collect data. Total 110 samples were selected conveniently for this study from Centre for the rehabilitation of the paralyzed (CRP), Musculoskeletal unit at Savar. Pain intensity was measured by visual analogue scale (VAS in 10 cm) and health related quality of life (HRQOL) was assessed by the (SF- 36v2) health survey questionnaire. The study was analysed by descriptive and inferential analysis using SPSS 20.0 version. Results: In this research minimum age of the participants was 50 years and maximum age was 70 years with mean age 55.47 and SD 5.686. Pain intensity was mild among 6% (n=7) participants, 41% (n=45) had moderate pain, 53% (n=58) had severe pain. A significant association has found between age category of the participants and physical functioning ($\chi2$=4.615, p=.03*), energy ($\chi2$= 14.410, p=.00*), general health ($\chi2$=11.115, p=.00*), pain ($\chi2$=4.013, p=.04*) and emotion ($\chi2$=4.798, p=.02*). A significant relatioship has found between actual age of the participants and grand total of SF-36 (r= -.584, p=.00*). Conclusion: Pain among elderly is a common condition which has an influence on physical and psychological aspects of quality of life (QOL). LBP has a negative impact on QOL. LBP significantly limits of a person's activity such as physical functioning, role limitation due to physical health, social functioning, emotional well-being, energy,bodily pain and general health.

Key words: Quality of life, Low back pain, SF-36.

CHAPTER-I INTRODUCTION

1.1 Background

These days Low back pain (LBP) is a significant problem in society. In the general population back pain (BP) is a common and costly problem (Mutubuki et al., 2020). Low-back pain is one of the most common painful conditions experienced by humans throughout their life (Violante et al., 2015). It is responsible for a major population of people staying away from work and visiting a medical practitioner. It is estimated that 70 to 80% of the world's population has at least one episode of low back pain in their lifetime and this condition may cause a decrease in the quality of life of individuals, as well as deterioration in physical activity which has been referred as a 20th century disaster (Sheeran et al., 2015).

Back pain is usually nonspecific or mechanical. Mechanical low back pain arises from the low spine, inter-vertebral discs or surrounding soft tissues. Nonspecific chronic low back pain is characterized by pain in the lumbar region without defined causes, such as reduced disc space, nerve root compression, bone or joint damage, scoliosis or marked lordships that could lead to back pain (Elias &Longen, 2020). Red flags may help to identify non mechanical low back pain. Progressive motor or sensory loss, urinary retention or overflow incontinence, history of trauma-related to age, recent invasive spinal procedure and history of cancer are considered as red flags. Suspicious cauda equina syndrome, infection, malignancy and fracture are detected by imaging on the initial presentation. Plain radiography of the lumbar spine is appropriate to assess for bony abnormality and fracture. Magnetic resonance imaging is better for identifying the source of soft tissue abnormality (Will et al., 2018). Low back pain has been recognized as one of the costliest health problems. Thus, reducing the recurrence of low back pain should be targeted to improve the quality of life and functional activities among elderly people to reduce disability and health care costs.

A high prevalence of low back pain has been recorded among elderly people. Lifetime prevalence rates of low back pain are up to 64% to 84%. The recurrence chance of low back pain at 1-year varies from 24% to 80%. Low back pain has become a worldwide complaint and about 540 million people are affected at that moment in time (Hartvigsen et al., 2018). In everyday life, LBP is the most common complaint among elder people. An adult person experienced a higher prevalence of severe back pain and when the age increases the persistence of low back pain becomes more frequent. Prevalence rates of severe and chronic low back pain increase with older age are suggested in a piece of evidence. As the age increases the frequency and severity of spinal degeneration increases which can be visualized in radio-graphically. At any given time about 20% of the elder people experience an episode of low back pain (Meucci et al., 2015).

A study in Finland reported that the prevalence of LBP for 7-year-olds, 10-year-olds and 14- to 16-year-olds was 1.0%, 6.0%, and 18.0%, respectively (Fatoye et al., 2019). The most common age range is between 35 to 55 years old. The incidence of low back pain highly peaks in middle age and older age. A systematic review of the global prevalence of low back pain showed that it is a major problem throughout the world and is most common among elder persons between 50-70 years. Men and women are equally affected but after 60 years often women report more low-back syndromes than men (Wong et al., 2017). Markman et al. (2020) stated that the prevalence of low back in Bangladesh is 64.8% and Pakistan 69.5%. In developed and developing countries low back pain is a leading cause of disability due to a high impact on the quality of life (QOL) and functional activities (Bishwajit et al., 2017). In rural areas low back pain prevalence is 34% mentioned in the research. The research showed that across Occupation groups in Shanghai reported LBP prevalence ranging from 40% among teachers and 74% among garment workers (Yiengprugsawan, et al., 2017). In the Brazilian older population, a 25.4% occurrence of chronic low back pain was found. In Brazil, the National Household survey found that chronic low back pain was the second most prevalent condition after systemic arterial hypertension (Meucci et al., 2013).

In developing countries, the rate of LBP was much higher. Bangladesh is one of the developing countries in the world having a high density of population where only 40%

male and 30% female are literate. The overall prevalence of low back pain was 46%; men showed a prevalence of 42% and women 58% (Fonseca at al., 2016). Risk factors of low back pain among older adults include pathological conditions (e.g., osteoporotic vertebral fractures, tumors, spinal infection, spinal degeneration, and lumbar spinal stenosis). Age-related physical, psychological and mental changes (physical inactivity, age-related changes in central pain processing and dementia) (Wong et al., 2017).

Low back disorders are related to work-related lifting, force full movements, awkward posture, and heavy physical activity. Demographic features such as age, gender, etc. and others some known risk factors of LBP are recurrent weight lifting, using vibrating equipment, sedentary lifestyle, obesity, smoking, scoliosis, obesity, etc. It has been estimated that males have a greater chance of low back pain than females (Mekonnen, 2019). Mechanical problems are the most common cause of low back pain. Any kind of injury to one of the intervertebral disks (disk tear, disk herniation), ligament and joint also cause pain. Disk herniation and disk protrusion have been popularized as a cause of low back pain (Schroeder et al., 2020). Fixed postures for prolonged time reduces the pumping action of the intervertebral disc, reducing the nutrition of this structure. Due to poor mechanical conditions, the fluid from the disc decreases and degenerates gradually, causing abnormal movements among the vertebral bodies, predisposing degeneration, and pain (Cai et al., 2020). The relationship between potential mechanism of LBP and obesity remains controversial. Persistent obesity, especially abdominal obesity is associated with LBP in young women, after a research it was concluded that patients with a BMI less than 30 are at minimal risk; those with a BMI of 30 to 40 are at moderate risk, and those with a BMI greater than 40 are at high risk for developing LBP (Baumgarten et al., 2011).

Low back pain is the number one most common cause of activity limitation, the second most common cause of doctor's visit and the third most common cause of surgical procedure in the USA. Low back pain is the most common cause of functional impairment in the United States population of all ages and the most common cause of activity limitations. Recent surveys indicate that chronic LBP results in restrictions of social and other activities and has a strong impact on ADL resulting in reduced quality of

life (QOL). In fact, pain and the degree, to which the patients believe that they are disabled by it, is a powerful factor in the extent of their QOL impairments (Roseen et al., 2019). Studies have shown that lumbar spine disease can negatively affects the QOL and it can have a major impact on daily functions such as dressing oneself, standing, sitting, walking, and lifting which can severely interfere with a wide range of life's activities (Paraseth et al., 2018).

This study was therefore aimed to explore the impacts of low back pain on Qualilty of life of elderly population in a selected hospital in Bangladesh.

1.2 Justification:

Low back pain (LBP) is a most common musculoskeletal disorder which affects the QOL of an individual. Most of the time the aim of treatment does not succeed due to patient poor quality of life. As a physiotherapy final year student my concentration centered to evaluate the quality of life of LBP patients.

LBP affects patient's mobility, personal care, usual activities as well as mental status also. Mostly these things can change the course of treatment positively. After this study physiotherapists shall get an idea about the level of QOLamong the elderly with LBP. This idea helps to set up treatment plan according to patient's needs. We can provide better treatment as well as essential advice to the patients. As a health professional it improves our knowledge. By this study patients also benefited by gaining knowledge about his/her condition and gain some information about their life style, their mobility, personal care, usual activities, and mental status. This research was based on the practical data collected from elderly people according to my questionnaire. I had made the relation between this information and draw some conclusion which could be used in future. This kind of research was not done before in Bangladesh, so it will be a resource for physiotherapist and other medical professionals for the quick analysis to find out the efficiency of the treatment that why the therapy is working faster or not. Physiotherapists in Bangladesh, treat patients keeping in mind the aspects. For which this research will help them to find out the deficiency to improve the treatment. There is no alternative to do research as a professional in order to psychophysiology develop the profession. However, for fulfillment the 4th year of B. Sc in Physiotherapy I have to carry out a research of my interest which accomplish the professional body of interest.

1.3 Research question

What is the impact of low back pain on quality of life among elderly people?

1.4 Aim of the study

To identify the impact of low back pain on quality of among elderly.

1.5 Objectives

1.5.1 General objective

- To identify the impact of low back pain on quality of life among elderly.

1.5.2 Specific objectives

- To find out the socio-demographic (age, gender, residential area, occupation etc.) information.

- To identify the level of physical functioning, physical role, bodily pain, general health, vitality, social functioning, emotional role, mental health of elderly people with LBP.
- To find out the relationship between different socio-demographic, physiological features and the individual domains of health related QOL.

1.6 List of Variables

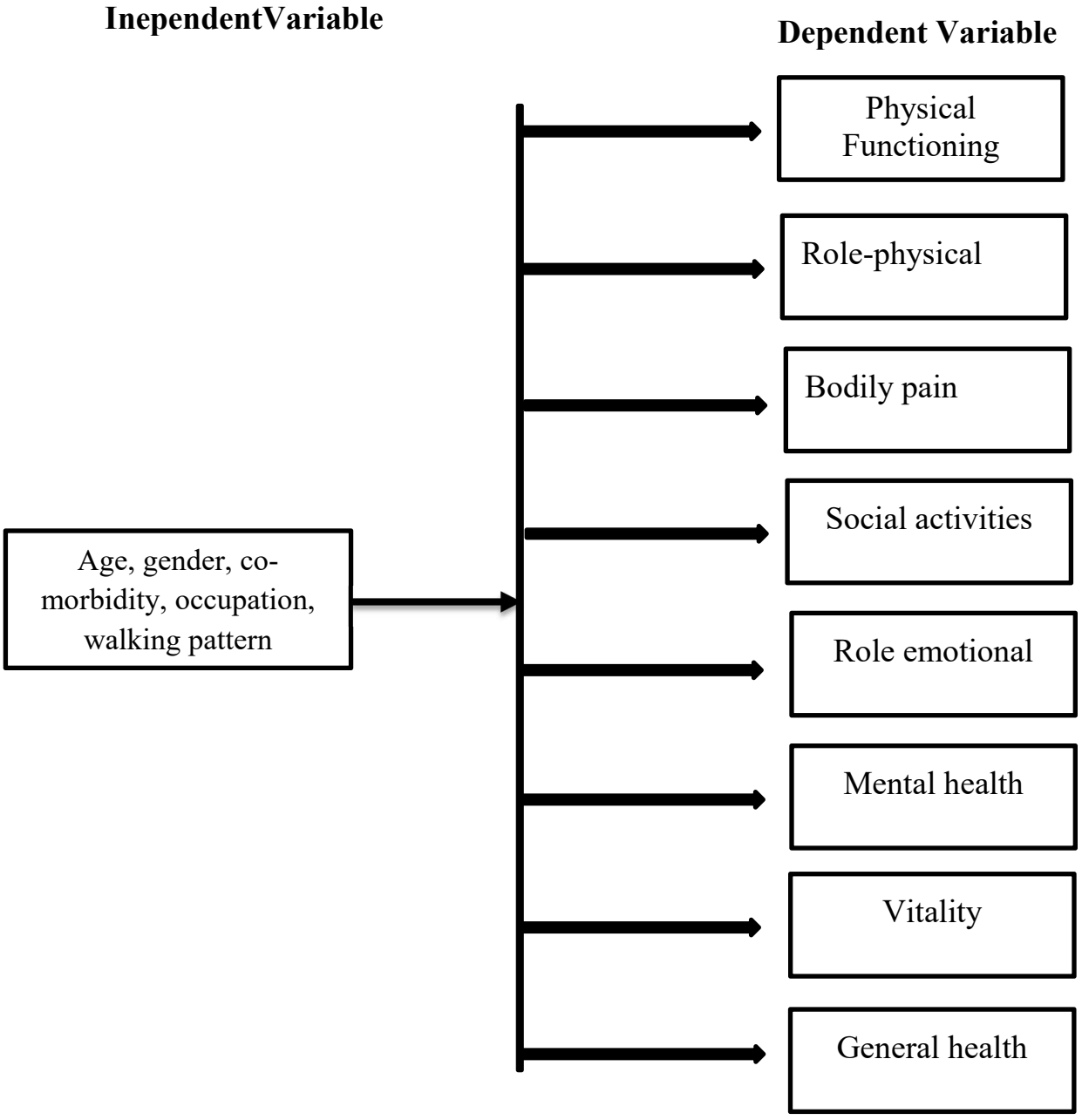

Figure: Conceptual Framework

1.7 Operational definition

1.7.1 Quality of life: The general well-being of elderly people in individuals and societies.

1.7.2 Low back pain: Low back pain (LBP) is characterized by pain or discomfort in the lumbar region, below the costal margin and above the gluteus fold that may or may not irradiated to the thigh.

1.7.3 Elderly: According to WHO, most developed countries have accepted the chronological age of 65 years and above as a definition of 'elderly' or older persons.

According to UN: 60+ years will be referred as the older population or elderly. Though this age limit also applies to Bangladesh, in reality people in Bangladesh become older earlier because of poverty, and the conditions related like hard labor, malnutrition, illness and their geographical condition (Sabharwal et al., 2015).

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CHAPTER – II LITERATURE REVIEW

An extensive literature review was conducted through the use of the key words of the title and the associated area of interest. Google , Google scholar, Pubmed , PEDro , Hinari , Bhpi library were the sources of the information. The literature were taken from the different scholarly articles, general scientific articles from 2000 to 2020. the review results are as follows.

Pain: Pain is an unpleasant sensation. Different people react in different ways to the pain. It's often described in terms of a penetration or tissue-destructive process. Every people feel pain from different origin. The prevention and management of pain is a crucial aspect of health care. In pain disorders, pain is perceived in several anatomic locations like the lower back, head region, abdomen, and chest (Kumar et al., 2016). Low back pain features a lifetime prevalence of nearly 80% globally and spinal disorders are the fourth commonest primary diagnosis for hospital visits within us. As a fourth commonest diagnosis in the clinical visit final disorder are diagnosed (Roger et al., 2015). In Africa, its levels between 28% and 74% and are most likely to elevating globally within the subsequent few years (Hoy et al., 2012).

Low back pain (LBP): Low back pain is defined as a pain or discomfort located below the margin of the 12th area on the posterior aspect of the body from the lower margin of the 12th ribs to the lower gluteus fold (Edwards et al., 2017). Generally, LBP is explained as pain and a feeling of uneasiness under the costal margin and over the gluteus region of the back, leg pain can be present or not, different nerves give supply to the back and to the leg and can cause referred pain and pulmonary, urogenital, or gynecologic system problems may excite the similar spinal cord segment sensory nerves which cause a referral of pain (Burton et al., 2004). Low back pain is the pain felt in the lower back that may come from the muscles, nerves, bones, joints or other structures in the spine and the pain may constant or intermittent, stay in one place or refer or radiate to other areas (Sikiru & Hanifa, 2010). Low back pain may be postural, dysfunctional, or derangement syndrome and according to the European guidelines for the management of acute nonspecific back pain in primary care, LBP (also known as lumbosacral pain) is defined

as pain and discomfort, localized below the costal margin and above the inferior gluteus folds with or without leg pain (Kuritzky & Samraj, 2012).

Classification of Low Back pain:

Non-specific Low Back Pain: Non-specific LBP is defined as low back pain, not due to a known cause, and represents 90–95% of the cases of LBP. The estimated point prevalence of non-specific LBP is 18 worldwide (Olivera et al., 2018). For a substantial proportion of patients with chronic low back pain, the anatomic factors causing back pain don't fully explain existing pain symptoms, and these subjects are commonly diagnosed with "nonspecific" chronic low back pain (CLBP) (Wettstein et al., 2019).

Specific back pain: In contrast to patients with specific back pain, associations of structural findings with pain intensity, disability, and quality of life are weak in CLBP patients. Therefore, other factors than pathos-physiological influences may account for inter individual differences in pain intensity, disability, quality of life, and well-being within the CLBP patients (Wettstein et al., 2019).

Acute Low Back Pain: Acute low back pain can be defined as six to 12 weeks of pain between the costal angles and gluteus folds that may radiate down one or both legs (sciatica). Acute low back pain is most often nonspecific and therefore cannot be attributed to a definite cause. However, possible causes of acute low back pain (e.g., infection, tumor, osteoporosis, fracture, inflammatory arthritis) need to be considered based on the patient's history and physical examination (Casazza, 2012).

Low back pain is usually nonspecific or mechanical. Mechanical low back pain most often arises intrinsically from the spine, inter vertebral disks, or surrounding soft tissues. Red flags may help identify cases of non-mechanical LBP. Red flags include progressive motor or sensory loss, overflow incontinence or urinary retention, history of cancer, recent invasive spinal procedure and significant trauma relative to Age (Will et al., 2018).

Chronic Low Back Pain: Chronic low back pain (CLBP) is defined as a pain that persists for more than 3 months. Chronic low back pain is a disorder commonly encountered in clinical practice and 75-85% of people have experienced some form of chronic low back pain. Chronic low back pain may be divided into three types of mechanisms: specific spinal pathology, irradiated pain and nonspecific chronic pain, which is statistically the most common of the three types of low back pain. Nonspecific chronic low back pain is characterized by pain in the lumbar region without defined causes, such as reduced disc space, nerve root compression, bone or joint damage, scoliosis or marked lordosis that could lead to back pain (Elias & Longen, 2020).

Chronic LBP affects up to 23% of the population worldwide, with an estimated 24% to 80% of patients having a recurrence at one year (Will et al., 2018). The increase in CLBP prevalence among individuals aged 30 to 60 may also be related to occupational and domestic exposures that overload the low back along with the degenerative articular process shown after 30 years of age. Although CLBP stabilizes or reduces from the seventh decade of life on, its prevalence remains high when compared to younger individuals (aged 20-30). This reduction among older people may be due to reduced exposure to occupational and everyday activities that increase the risk for CLBP. The literature also suggests that older adults are more resilient to pain due to factors related to ageing, such as cognitive impairment and decreased pain perception (Meucci et al., 2015).

Symptoms of low back pain: The symptoms of low back pain depend on the cause. In case of back sprain or strain Muscle spasms, cramping, and stiffness, Pain in the back and buttocks. Sudden movements make it worse, and resting makes it feel better. The pain usually lasts 48 to 72 hours and may be followed by days or weeks of less severe pain. In case of Nerve-root pressure if leg pain extends below the knee, it is more likely to be due to pressure on a nerve than to a muscle problem. Usuallay, it's a pain that starts in the buttock and travels down the back of the leg as far as the ankle or foot. In case of nerve-related problems, such as numbness,tingling sensation or weakness in one leg or in the foot, lower leg, or both legs. Tingling may begin in the buttock and extend to the ankle or foot. Weakness or numbness in both legs, and loss of bladder and/or bowel control, are

symptoms of cauda equina syndrome, which requires immediate medical attention (Downie et al., 2013).

Low Back Pain in Different age: The prevalence of musculoskeletal pain in older adult's ranges from 65 to 85, with 36 to 70% of them suffering from back pain (Wong et al., 2017). Older age has been shown to be associated with increased incidence of low back pain. Individuals age Between 20 and 29 years had a prevalence of low back pain of 31% which was found to increase to 73.5% for those aged between 50 and 59 years. Individuals age Between 20 and 29 years had a prevalence of low back pain of 31% which was found to increase to 73.5% for those aged between 50 and 59 years (Zahra et al., 2020).

When socioeconomic status comes into play, age is one of the more common risk factors for low back pain. A systemic review to find the association between age and back pain prevalence showed that the productive age groups are more vulnerable to back pain, and the incidence is higher among 3rd decade with overall prevalence increases till the middle to sixth decade of life (60 or 65 years), and then it declines gradually (Hoy et al., 2010).

Similarly, a review study on global prevalence of LBP have stated that the prevalence is higher among adolescence followed by a gradual decline in the figure among age group between 20-29 years and then steadily escalated among the middle age groups of 40 to 69 years, after that decrease between 80-99 years (Hoy et al., 2012). Another systematic review on the prevalence of CLBP based on the age has shown the prevalence rate as 4.2% among age groups of 24 to 39 years and 19.6% among age groups between 20 to 59 years (Meucci et al., 2015).

The review study on prevalence of persistent LBP in Africa, Asia, the Middle East, and South America found that the working population are at 2.5 times risk of developing CLBP than in general population (Jackson et al., 2016). Moreover, the study has also proven that the LBP prevalence is higher among females than males. This sex difference is multifactorial, and factors such as psychological, biological and sociocultural

influences the symptoms (Wu et al., 2018). Women are more likely to experience recurrent back pain and lower functional capacity compare to men because female patients are considered to be shorter in height and have more weight compare to male patients, and consequently, BMI is higher in them (Kose & Hatipoglu, 2012). It is also evident from the study that the women with lower socioeconomically state and minimum educational level are at greater risk to develop chronic LBP as compared to the male population having better socioeconomic and educational status (Meucci et al., 2015).
Beside these, pain during menstruation cycle, pregnancy or menopause, the differences on perceiving pain symptoms between the sexes, and variability in the growth pattern during adolescent period can also be an influencing factor of pain among female population (Wu et al., 2018).

LBP Induced Functional disorders: Mainly Physical, psychological, and functional disorders accompanied with LBP and aging are increased impact of these problems. The most common physical and functional disorders are personal care, daily routine, employment, sleep disturbances, washing, bathing, walking etc. Pain intensity can affect the gait parameters in patients with low back pain (Bonab et al., 2020). Unsolved LBP due to inadequate treatments and changes in perception increase the dependency on house and causes social isolation by leading emotional problems such as depression and anxiety. It is the most common secondary cause of seeing a doctor among patients who are at the age of 65 and older. The prevalence of LBP has increased to the age of 60 due to occupational exposure and decreased to the age of 60 and over in terms of changing perceived pain and apathy. Almost 80% of older population has suffered from severe LBP and required long-term maintenance due to musculoskeletal system disorders. One third of this ratio constitutes from LBP and there is no adequate treatment, which is described for resolving pain in the elderly population (Ulger et al., 2019). Low back pain (LBP) may be a frequent medical condition among middle-aged and older adults. It's related to impaired physical functioning, higher levels of subclinical anxiety, and depression but also with an increased risk of clinically relevant affective and anxiety disorders, also like reduced longevity. However, less is understood about associations of age with disability and well-being among CLBP patients. Dealing with pain could also

be harder with advancing age thanks to additional age-associated losses of physical, sensory, and other resources, leading to higher disability and lower quality of life (Wettstein et al., 2019).

In a qualitative study conducted in Iran, with an objective to identify the impact of chronic LBP on daily occupations observed the three themes associated with LBP. Based on these themes, this study has explained the experiences, challenges and difficulties of an individuals with chronic LBP on performing daily activities (such as personal care, sleeping, grooming etc.), interference with the job (lifting work, handling multiple tasks, manual jobs), participation on leisure activities, carrying out physical activities (like walking, playing sports, running, doing exercises) and remaining in static positions for prolonged period of time (Dehkordi, et al., 2016).

Impact of LBP on quality of life (QOL): Low back pain is a very commonly reported musculoskeletal condition among older patients visiting primary care centers, and this chronic condition impacts on patient quality of life as a result of the pain, resulting in a decline in physical and psycho-social well-being and social activities. It was estimated that the economic and human cost of low back pain is a major contributor to health-care costs; typically for this condition, indirect costs are much higher than direct costs (Laosee et al., 2020). A longitudinal study done on low back pain and limitation of daily living among Thai cohort group found an association between low back pain and functional limitations on ADL (i.e., on climbing stairs, walking 100 meters, bending, kneeling or stooping) with increased limitation among severe LBP and chronic LBP category (Yiengprugsawan et al., 2017). Similarly, a cross-sectional study conducted at faculty of medicine among 459 medical students in Belgrade, found that LBP has a significant impact on daily functioning, about 14.6% students reported problem during sleep and 12% while walking (Vujcic et al., 2018).

Direct health care costs are for instance, caused by patients searching for pain treatment. Indirect costs represent Secondary consequences of CLBP. This is resulting from disability or morbidity mainly caused by work absenteeism. Although indirect costs are

known to be the highest cost factor for LBP, direct health care costs, like medical specialist care and hospital costs for LBP are high as well (Maher et al., 2017).

Low back pain (LBP) is considered to be a common symptom experienced in populations worldwide and occurs in all age groups from children to the elderly. A systematic analysis of the Global Burden of Disease study in 2016 reported that among 328 diseases, low back pain ranked in the top ten of the Years Lived with Disability (YLDs) for all 195 countries. It was estimated that the number of years lived with disability caused by LBP increased by 54 % between 1990 and 2015, with the majority of this increase seen in ageing populations of low- and middle-income countries(Vos et al., 2016). Furthermore, in 2015, LBP and neck pain were the primary cause of disability throughout the world (Hurwitz et al., 2018). Similar was observed in 24 out of 28 South-east Asian, East Asian, Oceania countries and territories and three out of five South Asian countries (Nepal, Bangladesh and Bhutan) but in the India and Pakistan LBP was second cause of YLDs after iron-deficiency anemia (Vos et al., 2016).

Musculoskeletal diseases are associated with poorer quality of life (QOL) in the elderly **.** Patients with chronic low back pain can experience recurring debilitating pain and disability, decreasing their quality of life (Shemory et al., 2016). Limitation in function may be a primary reason people with low back pain seek medical treatment. (Marich et al., 2017).

Low self- belief within the ability to function in spite of pain (ache self-efficacy), negative expectation of recovery, avoidance of work or hobby because of fear of pain and damage (fear avoidance), bad thoughts about the reasons or effects of lower back pain, mental distress and reliance on passive coping techniques have all been found to be independently related to negative results which includes late return to work, pastime trouble, and pain endurance (Darlow, 2016).

The cost of LBP includes both direct cost as health care costs (like transportation, appointments and consultations with health care professionals, follow ups, investigations,

referral to different settings) whereas indirect cost as lost productivity at work and household activities (Hartvigsen et al., 2018).

Low back pain (LBP) is that the leading contributor to years lived with disability. Annually, total costs of LBP are estimated to be US $100 billion within the USA, €3.5 billion within the Netherlands, €6.6 billion in Switzerland, €17.4 billion in Germany, and AUD $9.17 billion in Australia. Although LBP imposes a huge economic burden on healthcare systems, this condition is responsible to affect individuals' daily lives. Hence, effective strategies play a crucial role to attenuate the impact of LBP (Olivera et al., 2018). The chronic LBP individuals will have a greater impact on performing various activities and overall, their daily lifestyle (Dehkordi et al.,2016).

It is stated that indirect cost associated with LBP is higher than direct cost (Maher et al., 2017). For example, in USA, LBP is responsible for 149 million workdays lost (Freburger et al., 2009) with the annual cost of $100 billion or more of which two-thirds cost is due to lost wages and decrement in productivity while in UK about 11billion pound (Sa et al., 2015) followed by 90 million working days are lost with 8-12 million of patients visiting physicians annually (Froud et al., 2014). Similarly, estimates from Australia, out of AUS$9.17 billion, about AUS$1 billion cost is accounted for direct heath care cost and rest all are spent for indirect cost (Hoy et al., 2010). A study done in Australia to explore on the financial status among early retired individuals of age group 45-64 years have found that the people who left the job earlier has about 87% less in the total income and wealth collected compare to full-time employer with no back pain They found that workers who had a higher episode of recurrence took maximum sick leaves which is directly associated with their pain level, decreased functional activities and overall quality of life in comparison to those who did not have recurrent back pain. Beside sick leaves, many old-adult workers are forced to take retirement early in life due to disabling LBP (Schofield et al., 2011).

The abbreviated From-36 well being overview (SF-36) is a multipurpose well being review which contains 36 questions. The SF-36 is nonexclusive measure of well being status that objective's the particular age, malady or treatment gathering. It is intended to give a worldwide estimation of well being related personal satisfaction. It contains eight

scales (Lins and Carvalh, 2016). The eight enter related well being measurements are: physical working, part confinements, substantial agony, general well being, essentials (vitality/weakness), social working, part enthusiastic, psychological well-being (Carrone et al., 2010). SF-36 physical segment outline: the physical segment summery measure of SF-36 four measurement: physical working, part restriction physical, body torment and general well being. These four individual's spaces reflect physical capacity and prosperity. A low score demonstrates poor general well being, extreme body torment and incessant delicacy and impediment of self-mind, physical versatility, and social connection and part exercises. A high score shows that general well being is incredible, no physical confinement, inabilities, or diminished in part exercises (Soh et al., 2011).

Descriptive analysis of SF-36

SF-36 consists of eight individual domain, which consist of physical functioning, Role limitation due to physical health, Role limitation due to emotional problem, Bodily pain, General health, Vitality, Social functioning and Mental health. Each question is directly transformed into a 0-100 scale so that each question can carry equal weight (ware, 2000).

In this study the scale 0-100 is subdivided into four section. Score 0-25 indicates very poor status, Score 26-50 indicates poor status, Score 51-75 indicates fair status and Score 76-100 indicates good status of all domains.

This 8 domain have different item, concerning physical functioning (10 items), role limitations due to physical problems (4 items), bodily pain (2 items), general health perceptions (5 items), vitality (4 items), social functioning (2 items), role limitations due to emotional problems (3 items) and mental health (5 items). The respondents are asked about how the situation is now with regard to all items of the physical functioning scale and the general health scale and about how the situation has been during the last 4 weeks with regard to all items of the other scales.

Score (0-25)	Very poor status
Score (26-50)	poor status
Score (51-75)	Fair status
Score (76-100)	Good status

Table 1: Scoring Categories of SF-36v2 scale

(Widar et al.,2004).

CHAPTER – III METHODOLOGY

3.1 Study design

A cross sectional study was chosen to conduct the study and as it was found to be an appropriate design to find out the objectives. Cross-sectional studies measure simultaneously the exposure and health outcome in a given population and in a given geographical area at a certain time. This study included the maximum proportion of elderly population who came for receiving treatment from February 2021 to October 2021 at the OPD of CRP. Moreover this design was cost and time effective for the researcher compare to an experimental study. According to Hemed and Tanzania, (2015) stated that cross sectional study is relatively cheap among the observational studies and can be conducted in a short time .

3.2 Study site and study area

The researcher was collected data from the Musculoskeletal unit of Centre for the Rehabilitation of the Paralyzed (CRP), Savar, Dhaka.

3.3 Data collection period:

Data was collected from January 02, 2021 to October 16, 2021. Data was collected carefully and maintain the confidentiality of the data. Each participant provided particular time to collect data. In general, each questionnaire took approximately 15-20 minutes to complete.

3.4 Study Population

The study populations were LBP patients who attended at Centre for the Rehabilitation of the Paralyzed (CRP) for treatment from 3rd January 2021 to 16 October 2021.

3.5 Sampling Technique:

A convenient sampling technique was selected by the researcher to draw out the sample from the population . It is the one of the easiest, cheapest and quicker method of sample selection. Convenience sampling is a type of non-probability sampling in which people are sampled simply because they are “convenient” sources of data for researches. Non-probability sampling is often divided into three categories: purposive sampling, convenience sampling and quota sampling. Non probability sampling is does not involve known non-zero probabilities of selection. It is a type of non-probability or nonrandom sampling where members of the target population that meet certain practical criteria, such as easy accessibility, geographical proximity, availability at a given time, or the willingness to participate are included for the purpose of the study (Etikan et al., 2016).

3.6 Sample size calculation (Cross sectional): (Hannan, 2016)

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

$$z\left(1-\frac{a}{2}\right)=1.96$$

$$d = 0.05$$

$$P = 0.42$$

$$Q = 1-p$$

$$=1-0.42$$

$$=0.58.$$

According to this equation sample size was 374. Due to the COVID-19 pandemic, the academic activities were closed and interrupted which influenced the data collection procedure therefore only 110 sample was taken.

3.7 Selection Criteria

3.7.1 Inclusion criteria:

- Clients with low back Pain attending at CRP Musculoskeletal (OPD) (March 2021 to October 2021) .
- Both male and female.
- Age range 50 years and above were selected.
- Voluntary participation.
- First conducting patients.

3.7.2 Exclusion criteria:

- Mentally ill and medically unstable patient.
- Non co-operative patients and lack of interest to participate in research activities.

3.8 Outcome measurement Tool:

A socio-demographical informative questionnaire will develop by researcher to collect data. A Standardized questionnaire/tool named the Short Form-36 (SF-36) is a 36 item questionnaire which measures Quality of Life (QOL) across eight domains.

3.9 Data collection tool:

- A consent form.
- A Questioner (Bangla) containing personal, socio-demographic information and the original version of SF-36.
- In that time some other necessary materials are used like pen, pencil, and white paper and clip board.

3.10 Data analysis procedure:

After complete the initial data collection, every answer was cross checked to find out mistakes or unclear information. Then data was analyzed through Statistical package of social science (SPSS) Version 20. Microsoft Excel worksheet 16 was used to create the most of the graphs and charts.Then data was analyzed through descriptive and inferential statistics. In descriptive part, in case of parametric data the central tendency and the measure of dispersion was presented through mean and standard deviation. The categorical data was presented as frequency and percentage of proportion through different visualization tool such as pie chart, bar graph. To find out the relationship between socio-demographic, physical parameters and health related QOL, Chi-square test for independence and Pearson co-relation test was applied. In case of two categorical variable chi-square/ fisher exact test, and two contentious variable Pearson co-relation test was applied.

3.11 Ethical consideration:

The whole process of this research project was done by following the Bangladesh Medical Research Council (BMRC) guidelines, Institution Review Board (IRB) and World Health Organization (WHO) Research guidelines. The proposal of the dissertation including methodology was approved by Institutional Review Board and obtained permission from the concerned authority of ethical committee of Bangladesh Health Professions Institute (BHPI). Informed consent was used to take permission from all participants. Participants' rights and privileges were ensured. All the participants were aware about the aim and objectives of the study. Findings of the study were disseminated with the approval of regarding authority. The researcher strictly maintained the confidentiality regarding participant's condition and treatment.

CHAPTER – IV RESULTS

A descriptive and inferential statistical analysis have been conducted to find out the result. In the descriptive section the categorical variables were measured in percentage and have been showed in different bar diagrams, pie charts and tables. The continuous variable's central tendency and measure of dispensation was calculated through mean and slandered deviation. In the inferential section, chi-square test for independence/fisher exact test and Pearson's co-relation test were conducted to find out the association between different dependent and independent variables .

Socio-demographic information:

4.1: Age category of the participants

The study was conducted on 110 elderly participants who are having Low Back pain. In the study the minimum age of a participant was 50. and maximum age of a participant was 70. Their mean age was 55.47 and standard deviation was 5.686. Participants in between 50-60 years 85% (n=93) and above 60 years 15% (n=17).

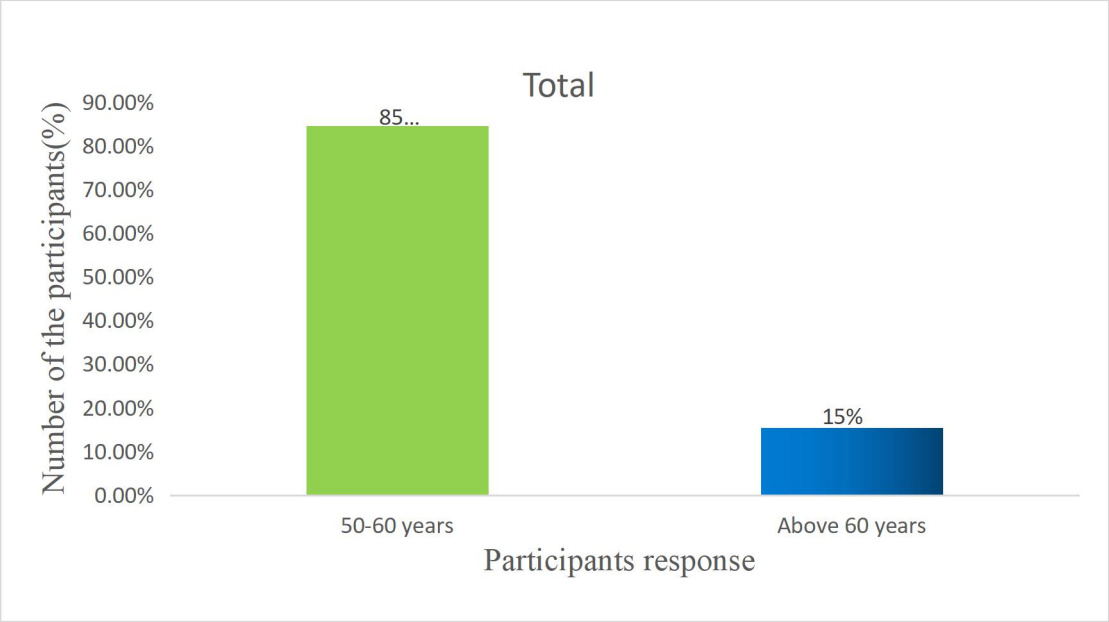


Figure-4.1: Age category of the participants

4.2 Gender of the participants Out of 110 participants, the majority was female 62% (n=69) and male was 38% (n=41).

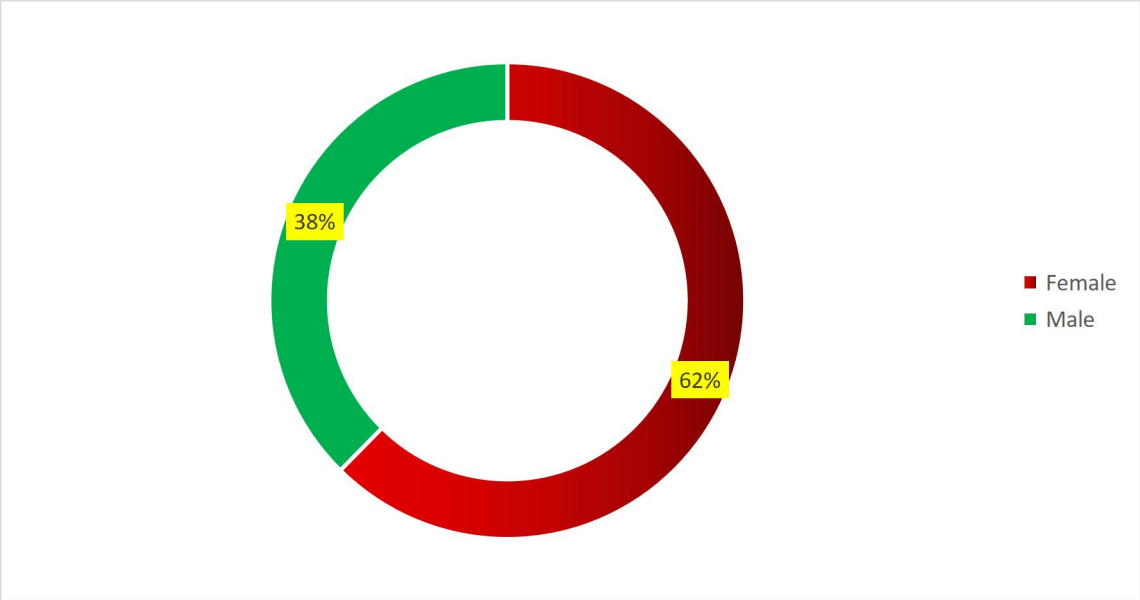


Figure-4.2: Gender of the participants

4.3: Living area of the participants

The table showed that 28%(n=31) participants lived in rural area, 40%(n=44) participants lived in urban area and 32%(n=35) lived in semi-urban area**.**

Living area	**Frequency**	**percentage**
Rural	31	28%
Urban	44	40%
Semi-urban	35	32%

Table-4.3: Living area of the participants

4.4: Educational status of the participants

Among the 110 participants 17% (n=19) was illiterate, 54% (n=59)was primary passed, 15% (n=17) was S.S.C passed, 9% (n=10) H.S.C passed, 5% (n=5) was graduation
(n=6%).

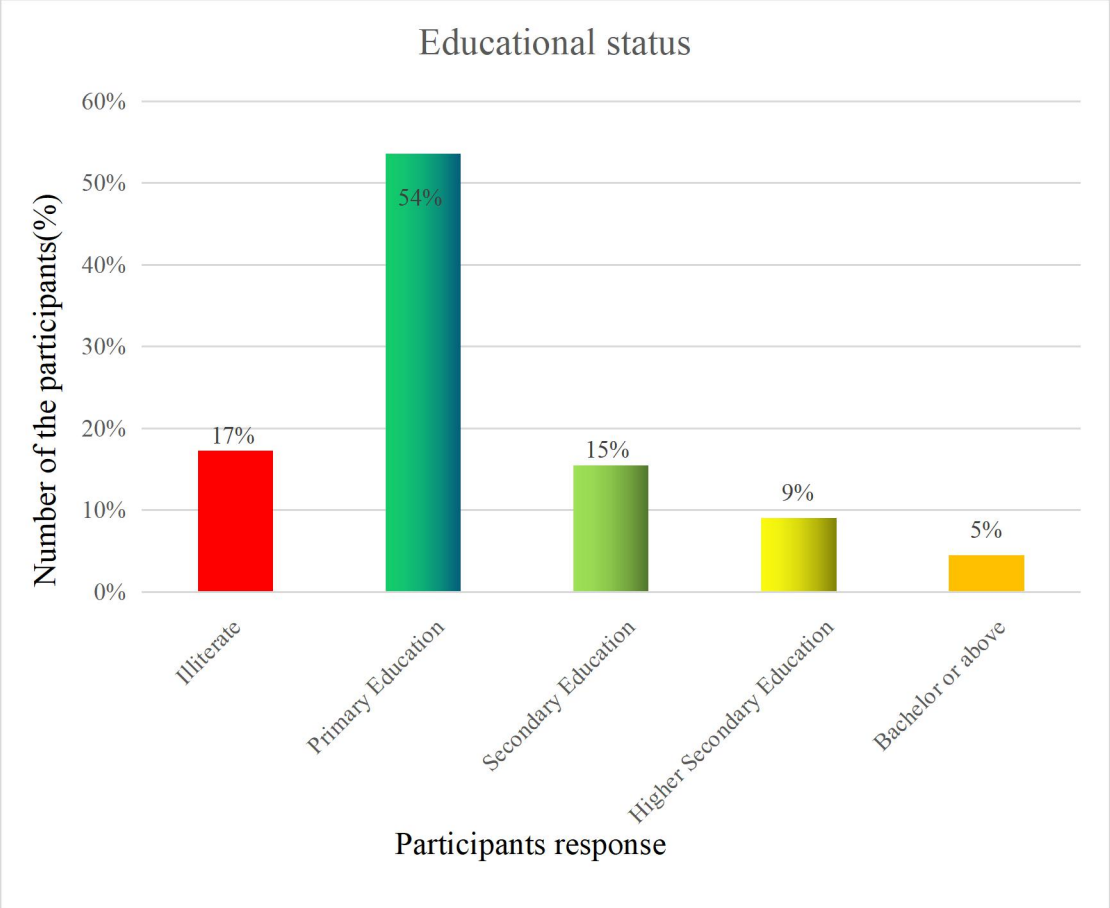


Figure-4.4: Educational status of the participants

4.5: Occupation of the participants

The table showed that 34%(n=37) participants suffered from low back pain with less physical activity and 66%(n=73) participants suffered from low back pain with more physical activity. Occupation related to less physical activity is related with service holder, bank workers, teachers and occupation related to more physical activity is related with housewives, labour, farmer, garment workers.

Occupation related to activity	**Frequency**	**Percentage(%)**
occupation related to less physical activity	37	34%
occupation related to more physical activity	73	66%

Table-4.5:Occupation related to activity

4.6: Marital status

Among the participants 110 participants 92% (n=101) participants was married, 9% (n=9) was widow.

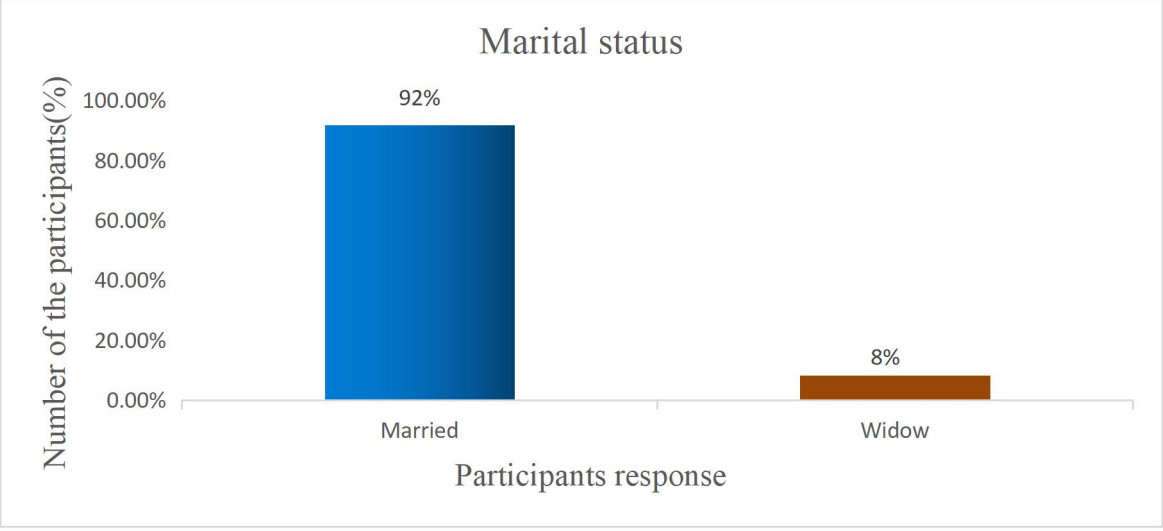


Figure-4.6: Marital status of the participants

4.7: Body Type

Among 110 participants 24% (n=25) was ectomorph, 6% (n=7) was endomorph and 70% (n=78) was mesomorph.

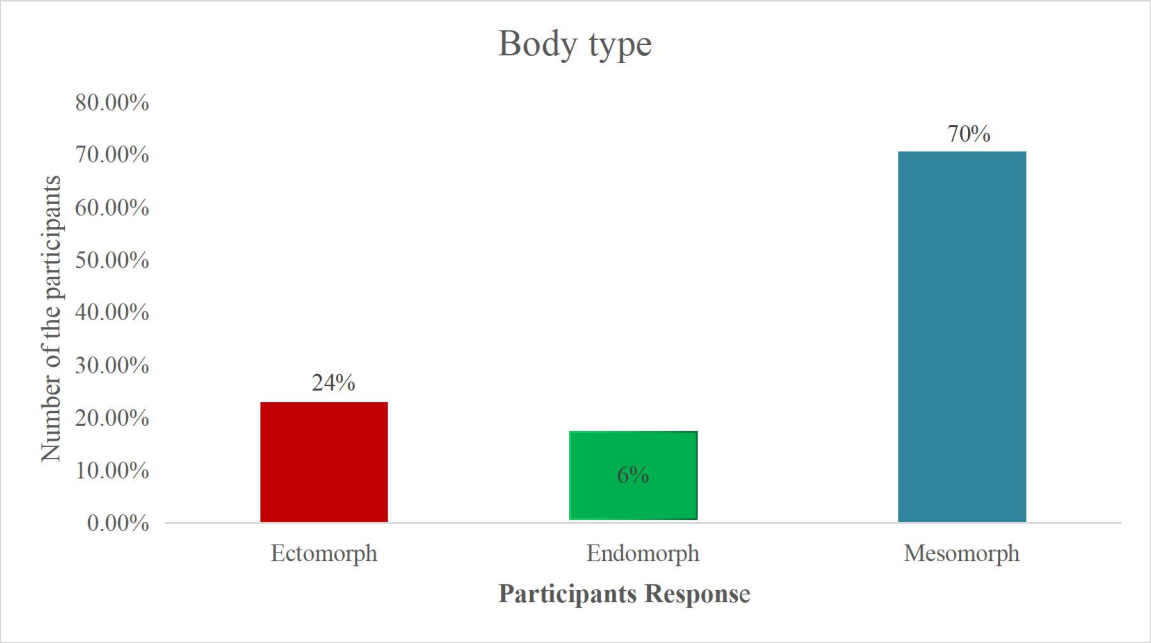


Figure-4.7: Body type of the participants

4.8: Co-Morbid status

Among 110 participants 28% (n=31) had multiple comorbidity, 56% (n=61) had single comorbidity and 16% (n=18) had no comorbidity.

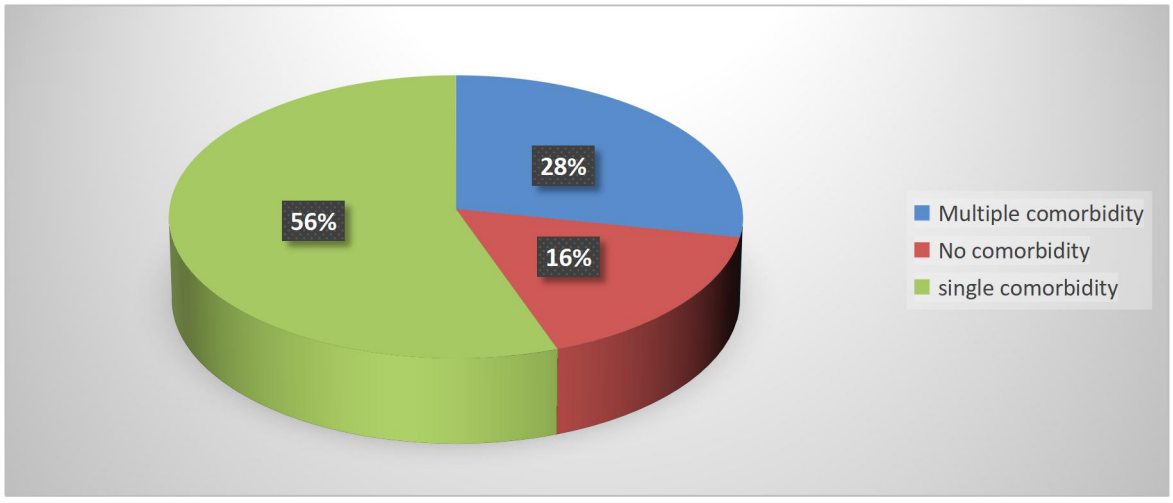


Figure 4.8: Co-Morbid status of the participants

4.9: Monthly Income range:

Among 110 participants the lowest monthly income was <5000 which was 2%(n=2), 5001-10000 was 20%(n=22), 10001-20000 was 66%(n=73), 13%(n=12)was above 20000.

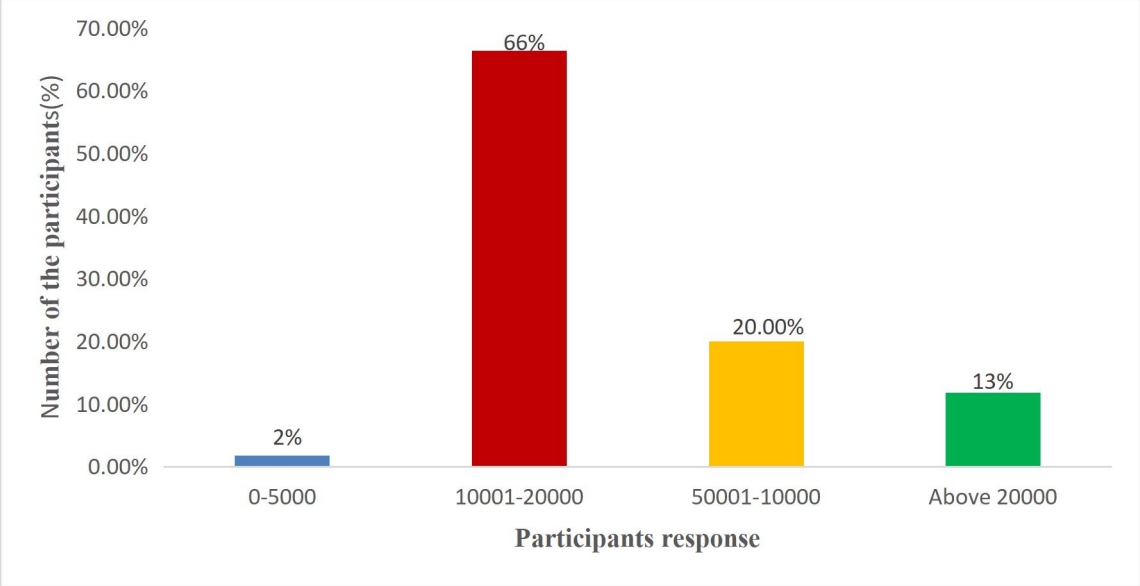


Figure 4.9 Monthly income range of the participants (BDT TK)

4.10: Expenditure area of the participants (For last six months):

The table showed that 51%(n=56) took medicine for the treatment of low back pain, 13%(n=14) was hospitalized because of low back pain, 28% (n=32) spent money for investigation and 8% (n=8) was surgery of back.

Area	Frequency	Percentage
Medicine	56	51%
Hospitalization	14	13%
Investigation	32	28%
Surgery	8	8%

Table:4.10- Expenditure area of the participants

4.11: Type of pain:

The research conducted that 24%(n=26) was traumatic and was non-traumatic76%(n=84) pain onset mode.

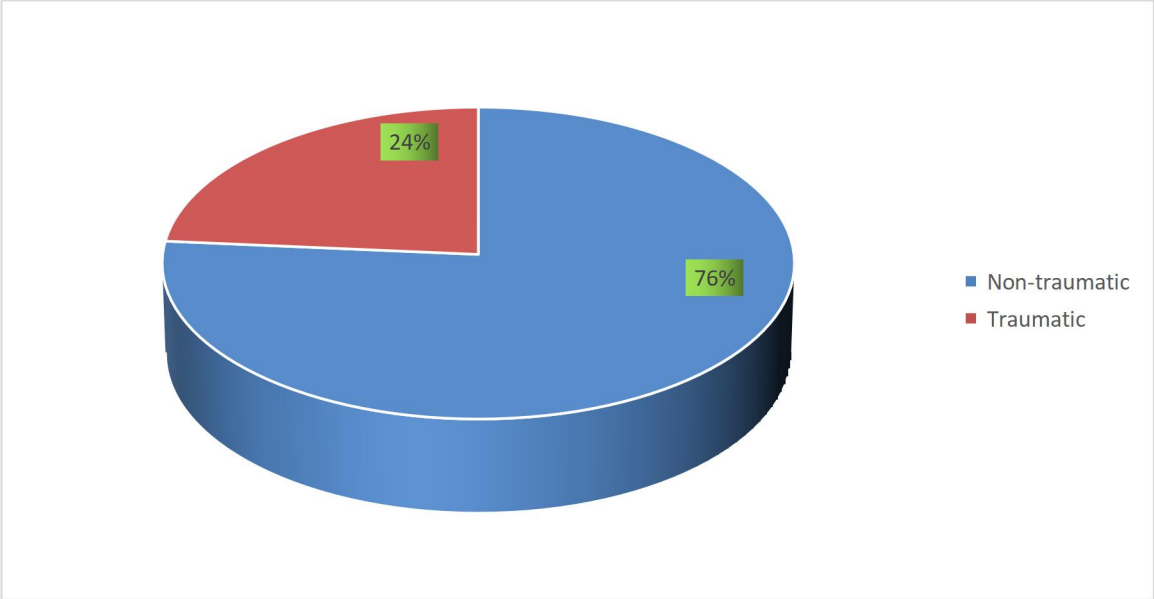


Figure 4.11: -Type of pain of the participants

4.12: Duration of pain:

From the 110 participants it was found that the highest numbers of them 36% (n=40) were found those suffered from >24 weeks Low Back Pain. It was found that a majority number of participants 33%(n=36) are suffered with Low Back Pain from 4-12 weeks, 25% (n=28) suffered with Low Back Pain from 13-24 weeks and only 5% (n=6) participants were suffering with Low Back pain from 0-3 weeks.

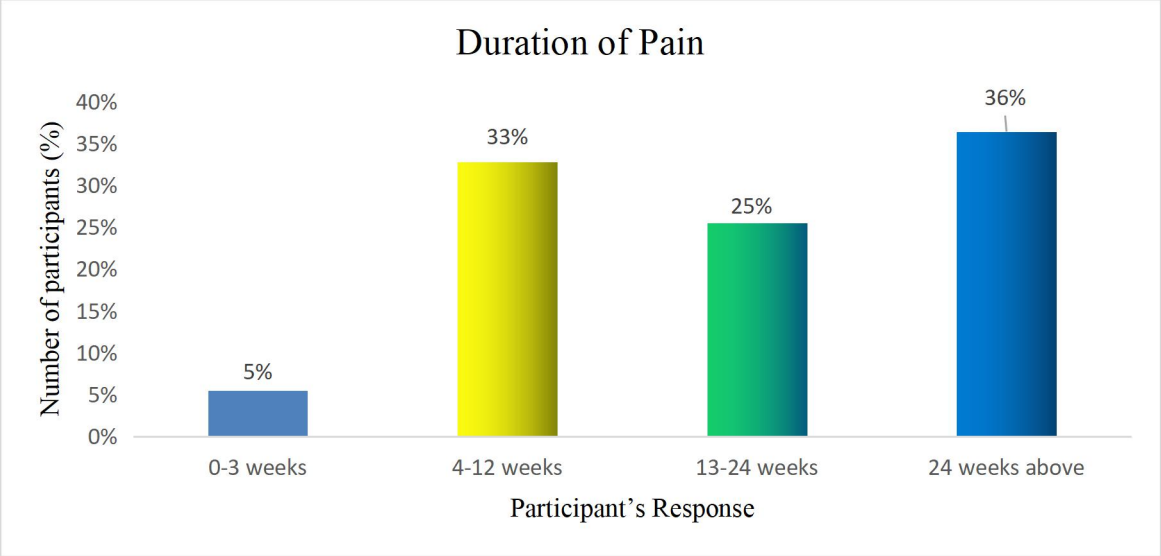


Figure-4.12: Duration of pain of the participants

4.13 Intensity of pain (VAS in mm)

Out of 110 participants, 10% (n=11) had mild pain,54 % (n=59) had moderate pain, 36% (n=40) had severe pain.

	Frequency	Percentage
Mild (4-44)mm	11	10%
Moderate (45-74)mm	59	54%
Severe (75-100)	40	36%

Table-4.13: Intensity of pain(VAS in mm)

Descriptive analysis of SF-36:

4.14: Physical functioning:

Among 110 participants 66% (n=72) showed poor physical function status which is ≤ 50 and 34% (n=38) showed fair physical function status which is ≤ 75. Good and very poor didn't found in any participant (n =0).

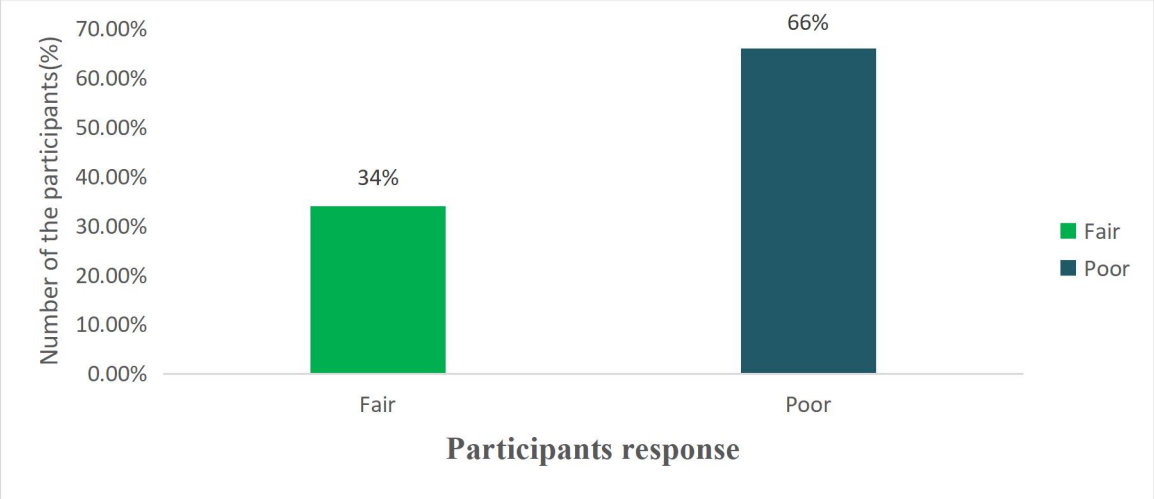


Figure 4.14: Physical functioning of the participants

4.15:General Health:

This study showed that among 110 participants 57% (n=63) had poor health status which is ≤ 50and 43% (n=47) had fair health status which is ≤ 75. Good and very poor did not found in any any participants.

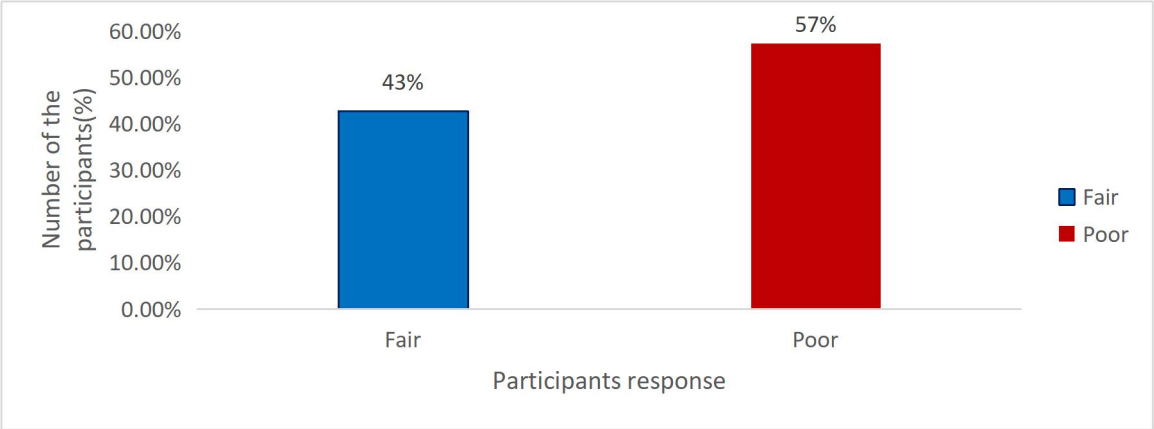


Figure-4.15:General health status of the participants.

4.16: Role limitation due to physical health:

This research showed that role limitation due to physical health 26% (n=29) was fair which is ≤ 75 and 74% (n= 81) was poor role limitation due to physical health which is ≤ 50.Very poor and good didn't found in any participant (n =0).

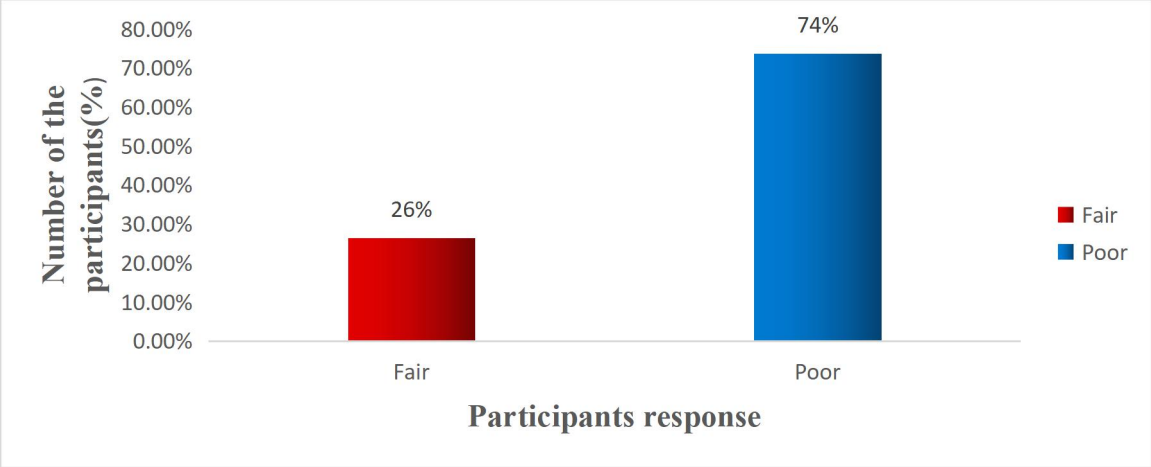


Figure 4.16: Role limitation due to physical health of the participants

4.17: Mental health:

In the research 60%(n=67) had poor mental health status which is ≤ 25, 40%(n=43) had fair mental health status which is ≤ 75. Very poor and good didn't found in any participant (n =0).

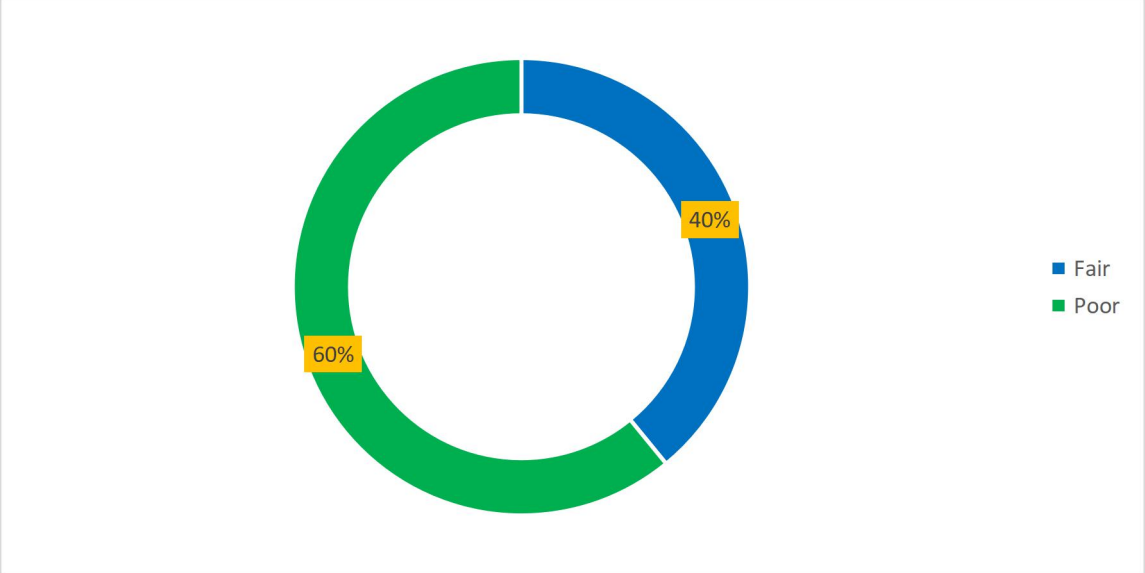


Figure 4.17:Mental health status of the participants

4.18: Energy/Fatigue

Among 110 participants, 48%(n=53) had fair energy level which is≤ 75, 52%(n=57) had poor energy level which is ≤50.

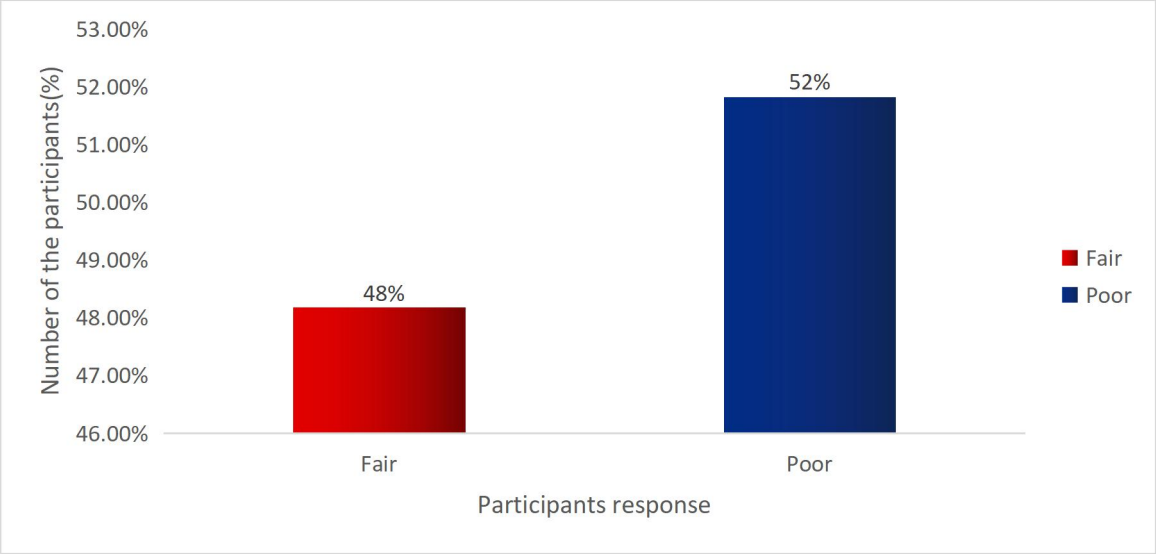


Figure 4.18: Energy/Fatigue level of the participants.

4.19: Emotional well-being

Among all the participants, 65% (n=71) had fair emotional well-being, 35%(n=39) had poor emotional well-being. Very poor and good emotional well being status did not found in any participants (n-0).

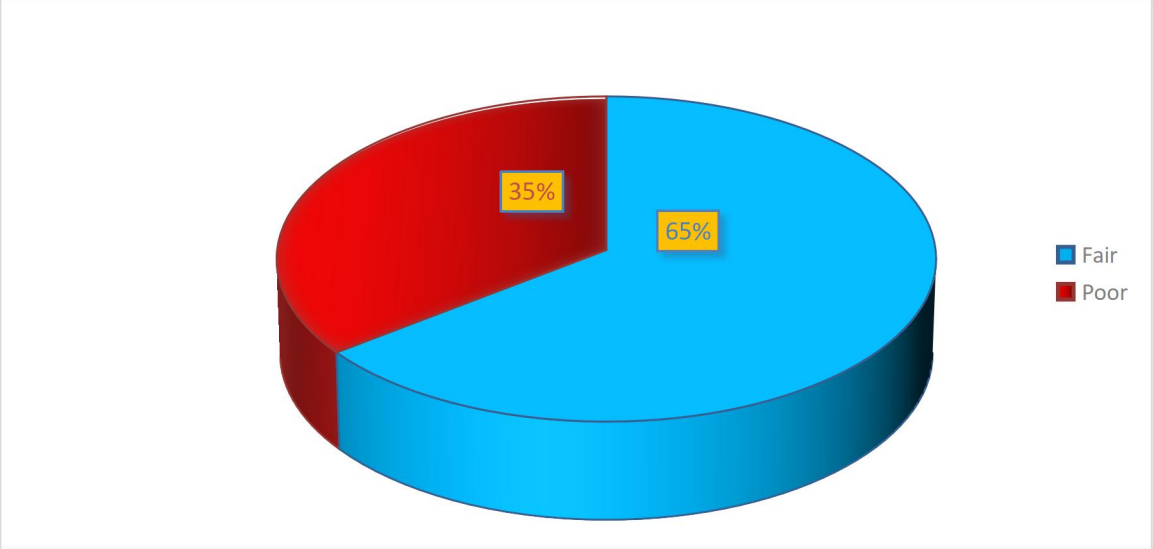


Figure 4.19: Emotional well-being of the participants

4.20: Bodily pain:

The research conducted that 33%(n=36) had poor body pain which is ≤ 50, 67% (n=74) had fair bodily pain during last 4months. Very poor and good didn't found in any participant (n =0).

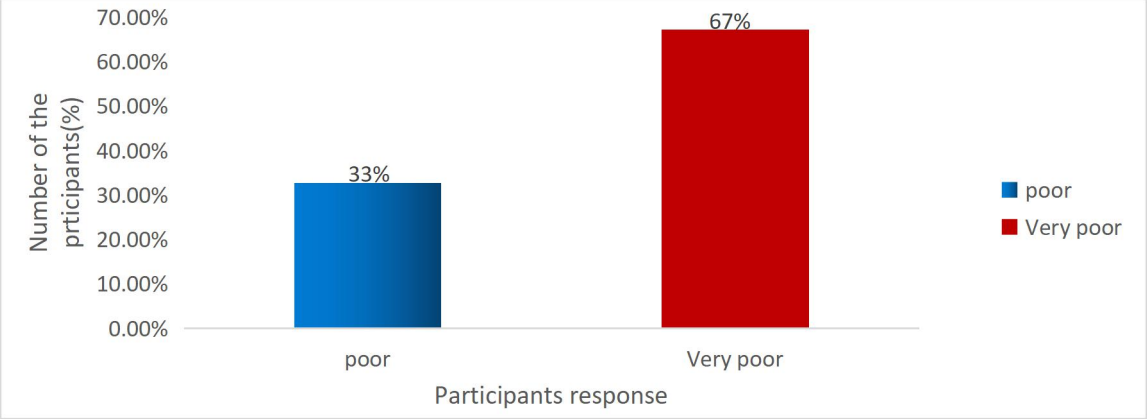


Figure 4.20: Bodily pain of the participants

4.21: Social Functioning:

Among 110 participants, 56%(n=62) had poor social functioning which is ≤ 50, 44%(n=48%) had fair social functioning which is ≤ 75. Very poor and good social functioning did not found in any participants (n=0).

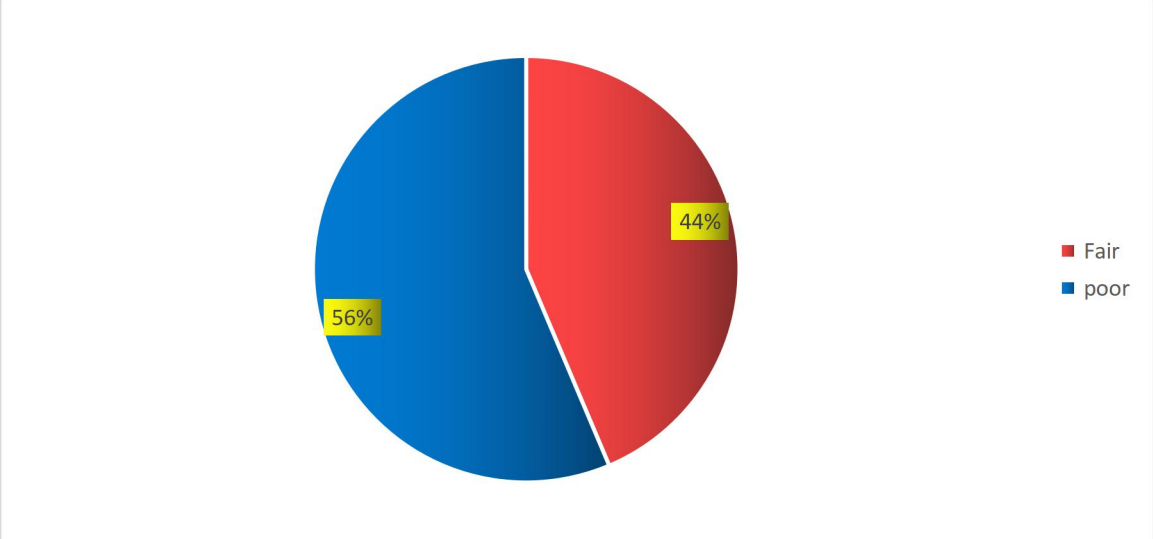


Figure 4.21: Social Functioning of the participants

Inferential statistic analysis:

4.22: Association between intensity of pain category (VAS in mm) with gender, number of co-morbidity, body type, occupation, walking pattern and type of pain.

Null Hypothesis(H_0)- There is no association between intensity of pain category with gender, co-morbidity, body type and walking pattern.

Alternative Hypothesis (H_A)- There is association between intensity of pain category with gender, co-morbidity, body type and walking pattern.

Test assumption :

1.Two categorical variables including two or more subcategories.

2.0 cells (0.0%) have expected count less than 5.

Level of significance (P value < .05).

Variable I	Variable II	Chi-square Value (x2)/Fisher exact test value	P= <.05
Intensity of pain category (VAS in mm)	Gender	1.431	.48(not significant)
	Number of Co-morbidity	4.282	.36(not significant)
	Occupation	5.597	.061(not significant)
	Body type	5.944	.203(not significant)
	Walking pattern	14.375	.001 (significant)
	Type of pain	6.737	.034(significant)

α value .05 significant *

Table 4.22: Association between intensity of pain with gender, co-morbidity, occupation,body type, type of pain and walking pattern.

Result: Table 4.22 shows that there has no relation between intensity of pain category and gender ($\chi2$=1.431, p=.48), number of co-morbidity ($\chi2$=4.282, p=.36), occupation ($\chi2$=5.597, p=.061) and body type ($\chi2$=5.944, p=.203). In these aspects , the significant level was more than 0.5 (p=>.05) which couldn't fulfill the requirement of being associated with each other. So, the null hypothesis can not be rejected. On the other hand, walking pattern ($\chi2$=4.375, p=.001*) and type of pain ($\chi2$=6.737, p= .034*) has relation with intensity of pain category. So, the null hypothesis can be rejected.

4.23: Association between age category of the participants and SF-36 score category.

Table 4.23 shows statistical comparison between age category of the participant**s** and SF-36 score category.

Null Hypothesis (H_0)*:* There is no Association between age category of the participants and SF-36 score category.

Alternative Hypothesis (H_A): There is Association between age category of the participants and SF-36 score category.

Test assumption (Chi square):

1. Two categorical variables including two or more subcategories.
2. 0.0% cells have expected count less than 5.

Level of significance (P value < .05).

Age category of the participants	Component of SF-36	Chi-square value ($\chi 2$)	α-value
Age category of the participants	Physical functioning	4.615	.03(significant)
	Role limitation physical health	.083	.77(not significant)
	Role limitation mental health	3.288	.07(not significant)
	Energy	14.410	.00(significant)
	Emotion	4.798	.02(significant)
	Social function	1.654	.19(not significant)
	Pain	4.013	.04 significant)
	General health	11.155	.001(significant)

α value .05 significant **

Table 4.23: Association between age category of the participants and SF-36 score category.

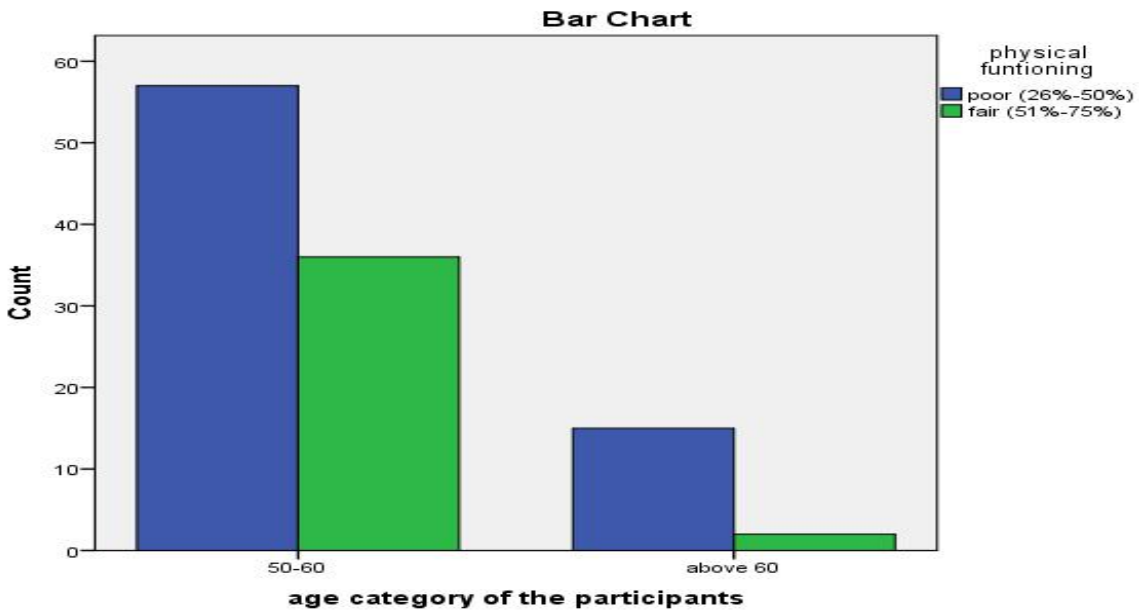


Figure 4.23.1 has shown an association in a bar chart

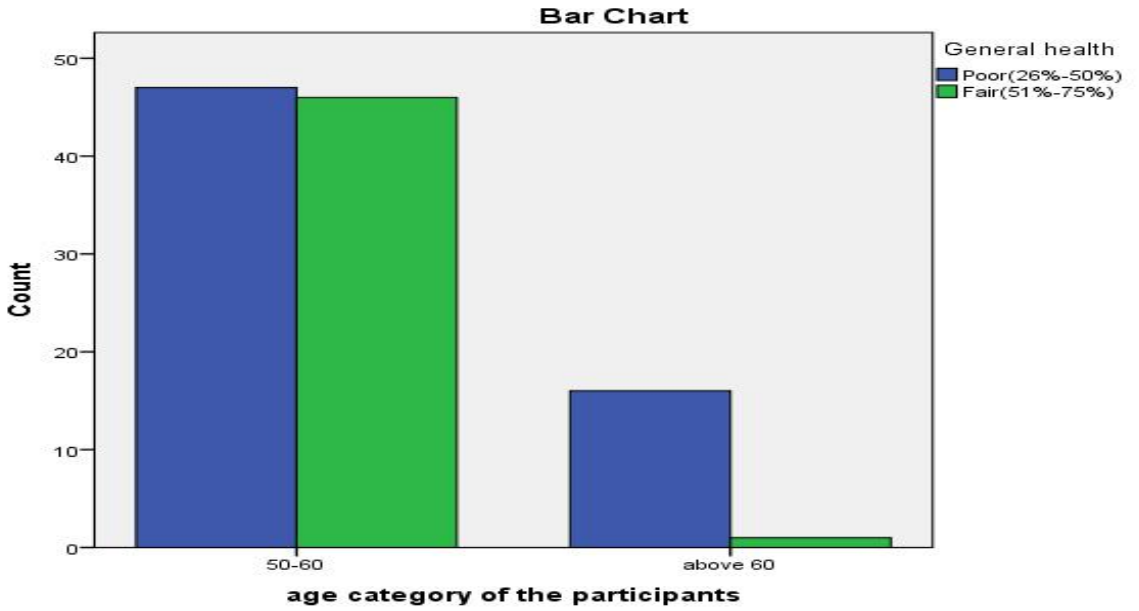


Figure 4.23. 2 has shown an association in a bar chart

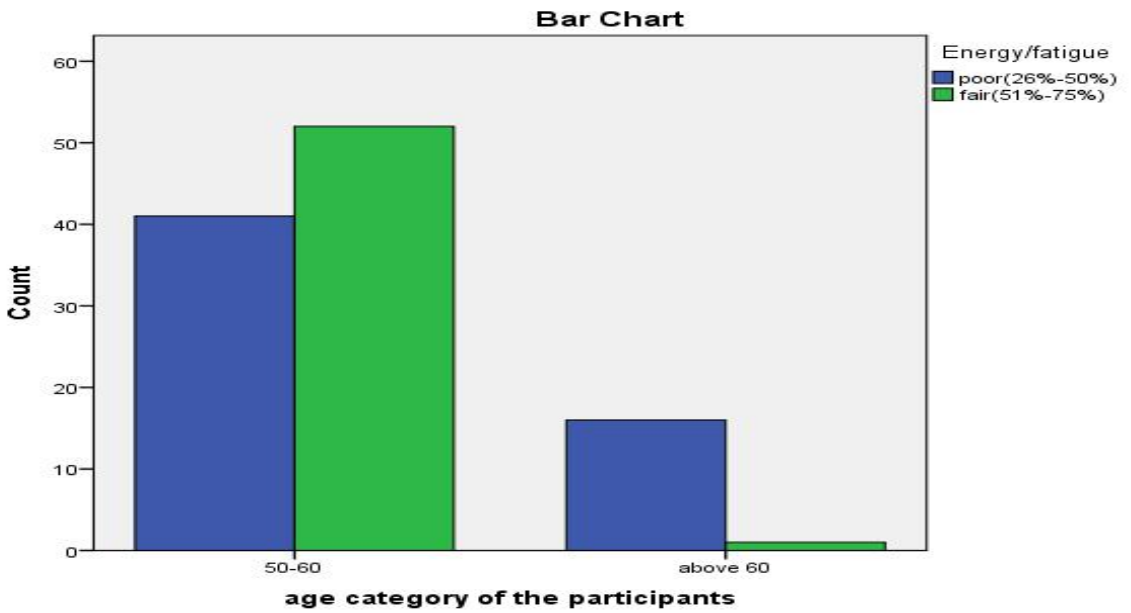


Figure 4.23.3 has shown an association in a bar chart

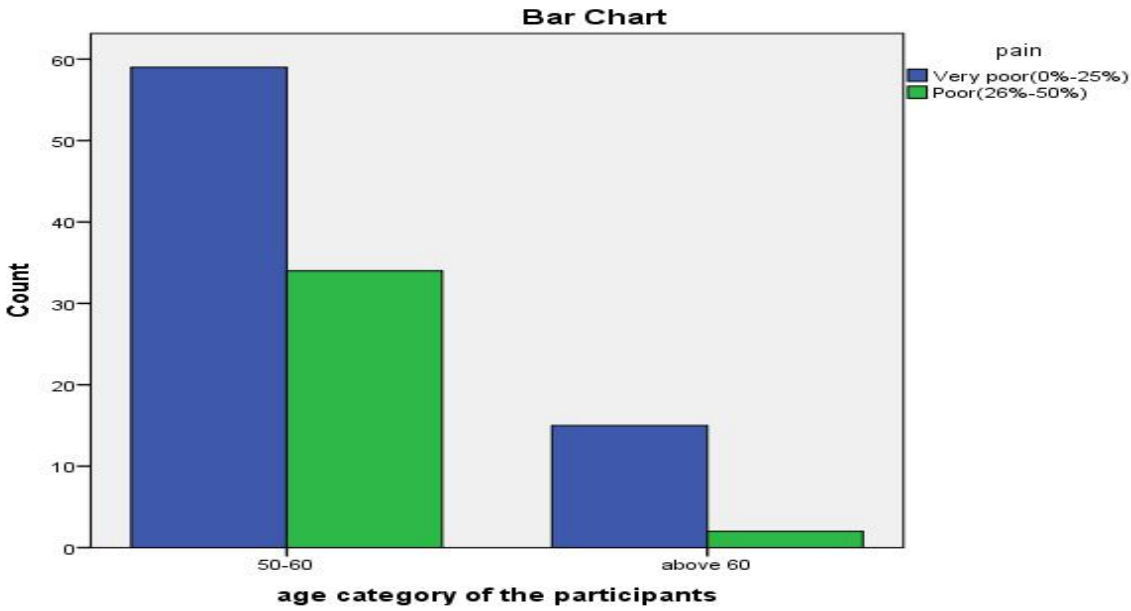


Figure 4.23.4 has shown an association in a bar chart

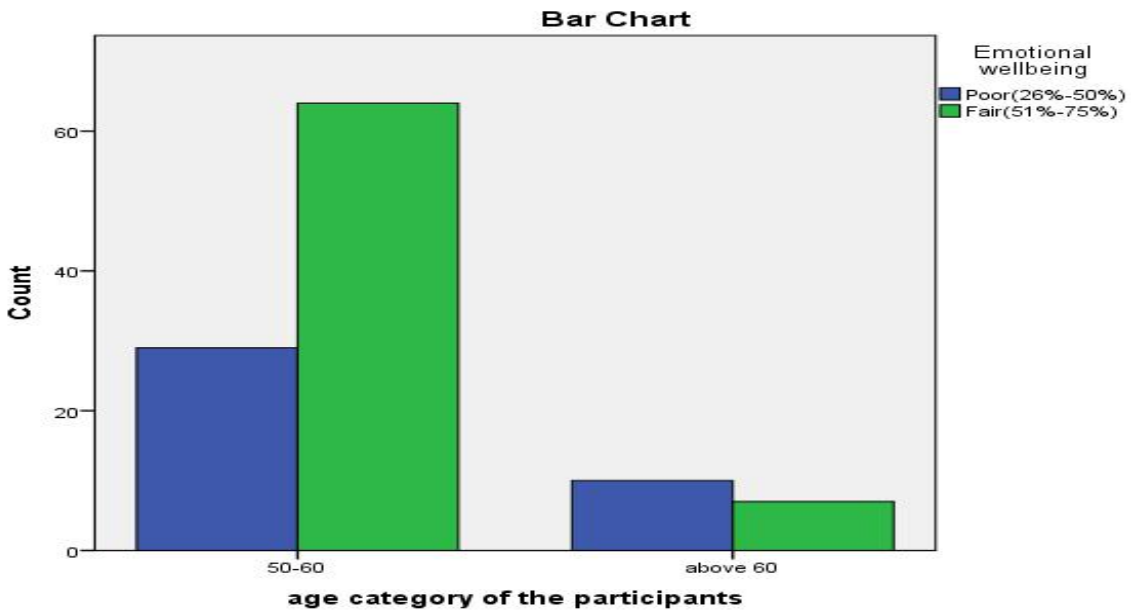


Figure 4.23.5 has shown an association in a bar chart

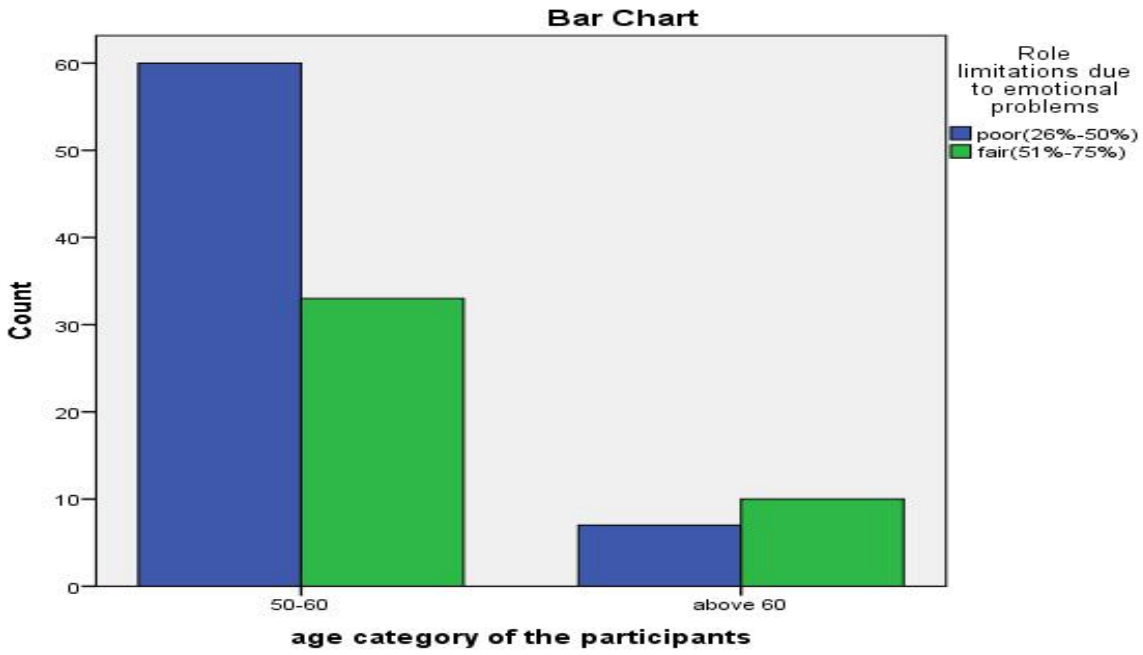


Figure 4.23.6 has shown no association in a bar chart

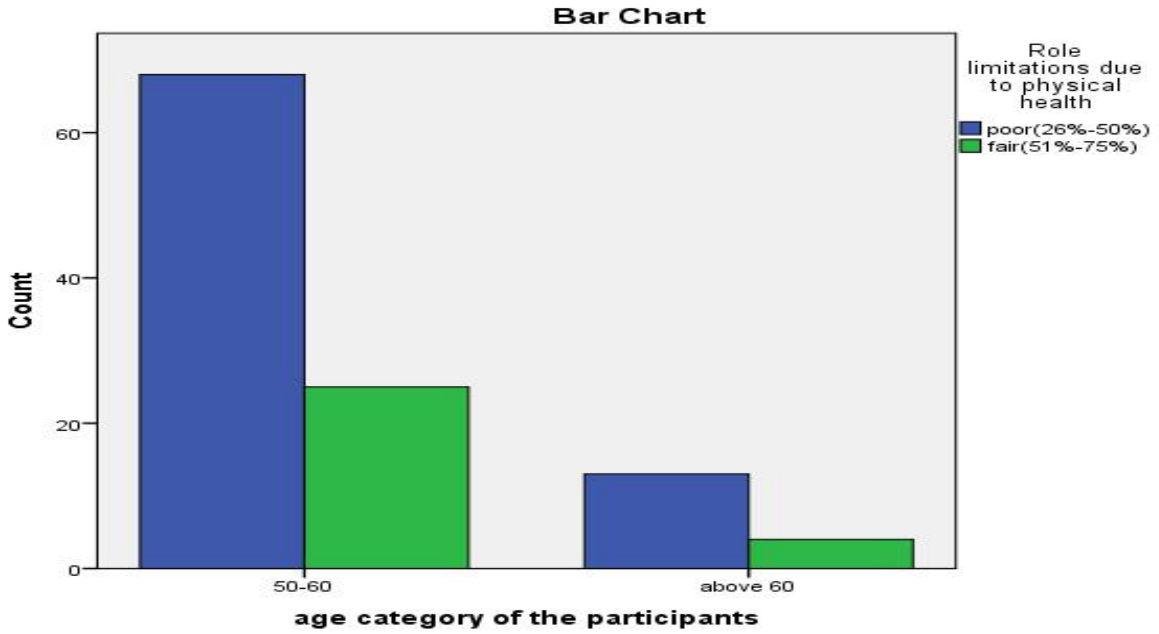


Figure 4.23.7 has shown no association in a bar chart

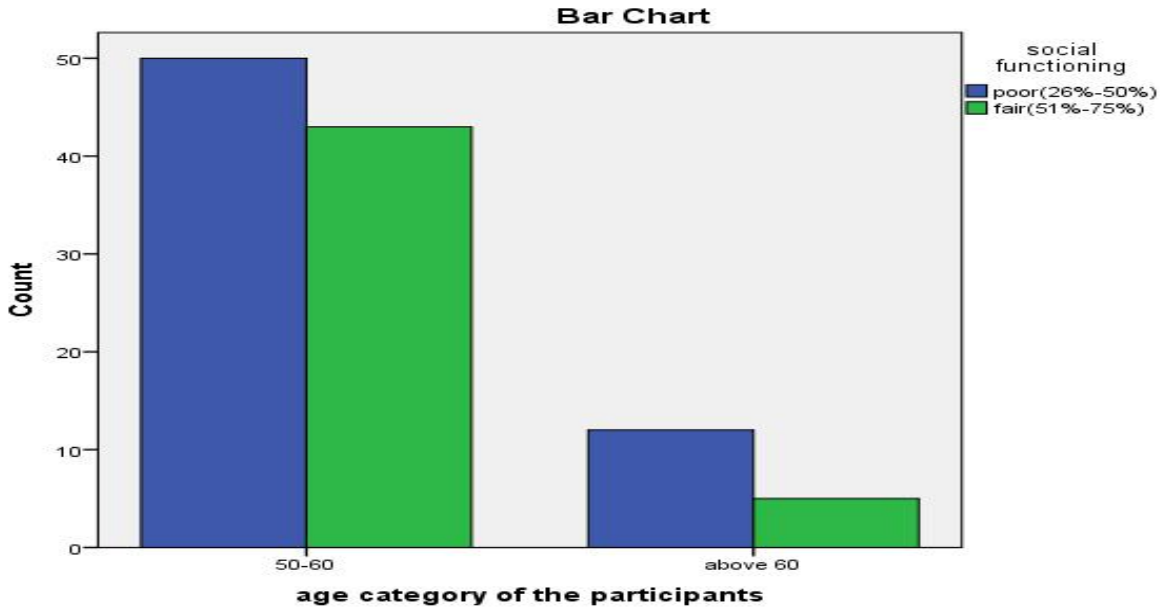


Figure 4.23.8 has shown no association in a bar chart

There has association between age category of the participants and physical functioning, energy, general health, pain and emotion their level of significance was ($\chi2$=4.615, p=.03*), ($\chi2$=11.155, p=.00*), ($\chi2$=14.410, p=.00*), ($\chi2$=4.013, p=.04*, p=.02*). So, for these domain, null hypothesis is completely rejected. The phi (Φ) co-efficient for physical functioning is -.205, indicating a weak association,the phi (Φ) co-efficient for energy is -.362, indicating a medium association, the phi (Φ) co-efficient for bodily pain is -.191, indicating a weak association, the phi (Φ) co-efficient for general health is -.318, indicating a weak association. On the other hand, role limitation mental health, role limitation physical health, social function had significance level more than .05 (p=>.05) . Significant value of those domain was ($\chi2$=3.288, p=.070), ($\chi2$=.083, p=.773), ($\chi2$=1.654, p=.198). So, these domain is not associated with age of the participant. So in that case null hypothesis can not be rejected.

4.24: Association between gender of the participants and SF-36 score category.

Table shows statistical comparison between gender of the participant**s** and SF-36 score category.

Null Hypothesis (H_0)*:* There is no association between gender of the participants and SF-36 score category.

Alternative Hypothesis (H_A): There is association between gender of the participants and SF-36 score category.

Test assumption:

1. Two categorical variables including two or more subcategories.
2. 0.0% cells have expected count less than 5.

Level of significance (P value < .05)

Gender of the participants	Component of SF-36 score category	Chi-square value ($\chi 2$)	α-value
Gender of the participants	Physical functioning	.005	.946(not significant)
	Role limitation physical health	.979	.323(not significant)
	Role limitation mental health	.284	.594(not significant)
	Energy	3.521	.061(not significant)
	Emotion	.037	.848(not significant)
	Social function	.125	.723(not significant)
	Pain	.355	.557(not significant)
	General health	.979	.323(not significant)

α value- .05 significant **

Table 4.24: Association between gender of the participants and SF-36 score category.

Result: There has no association found between gender and all the 8 domains of SF-36 in chi-square test. The significant value (α) found more than the significant level (p= >.05) in all the domain. The value was physical functioning($\chi 2$=.0005, p=.946) , Role limitation physical health ($\chi 2$=.979, p=.323), Role limitation mental health ($\chi 2$=.284, p=.594), Energy($\chi 2$=3.521, p=.061), emotion($\chi 2$=.037, p=.848), social function ($\chi 2$=.125, p=.723), Pain($\chi 2$=.557, p=.355) and general health ($\chi 2$=.979, p=.323). So, for this consequences it can be said that these domain is not associated with gender of the participant. So in that case null hypothesis can not be rejected.

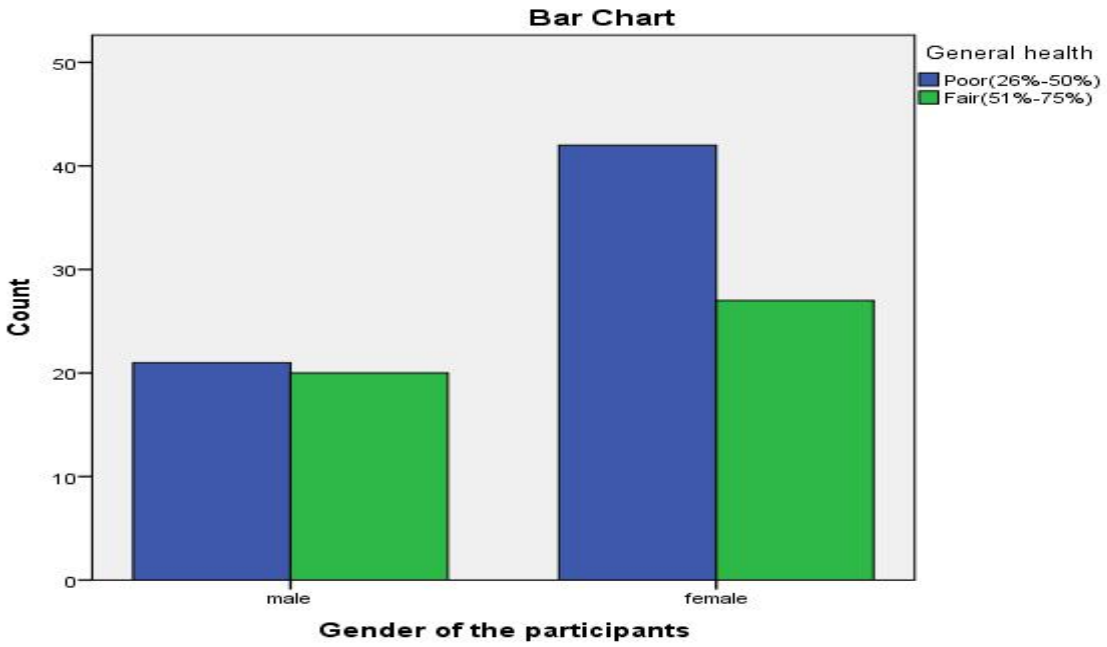
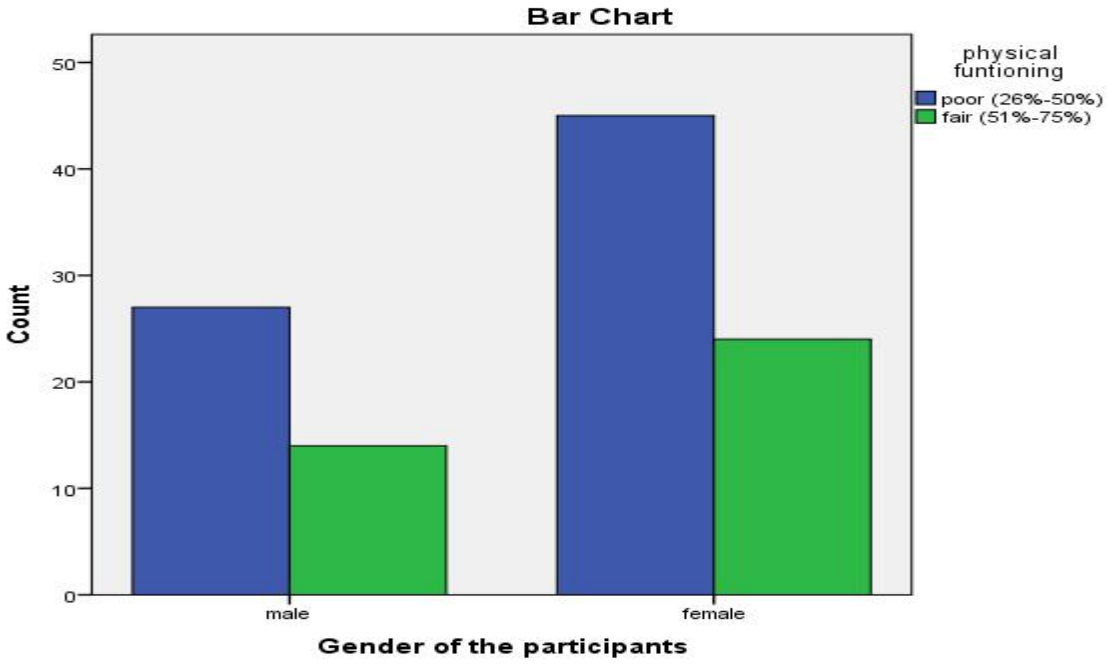


Figure-4.24.1 has shown no association in the bar chart.



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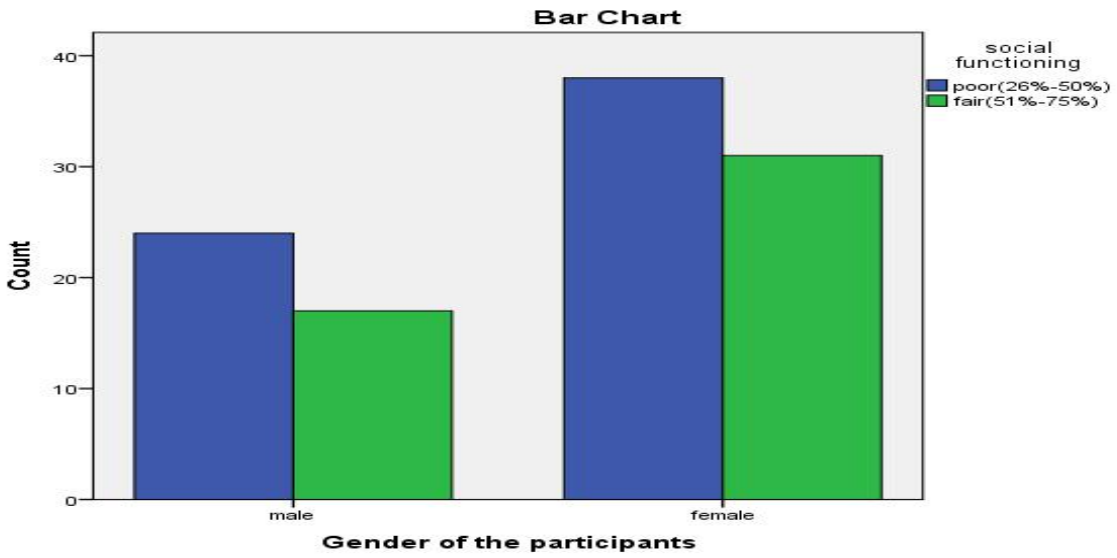


Figure-4.24.3 has shown no association in the bar chart.

4.25: Association between pain intensity category of the participants and SF-36 score category.

Table shows statistical comparison between pain intensity category the participants and SF-36 score category.

Null Hypothesis (H_0)*:* There is no *a*ssociation between pain intensity category of the participants and SF-36 score category.

Alternative Hypothesis (H_A): There is *a*ssociation between pain intensity category of the participants and SF-36 score category.

Test assumption:

1.Two categorical variables including two or more subcategories.

2. 0.0% cells have expected count less than 5.

Level of significance (P value < .05).

pain intensity category of the participants	Component of SF-36	Chi-square value ($\chi 2$)	α-value
pain intensity category of the participants	Physical functioning	5.920	.050(not significant)
	Role limitation physical health	1.583	.453(not significant)
	Role limitation mental health	.685	.710(not significant)
	Energy	13.555	.001(significant)
	Emotion	6.269	.041(significant)
	Social function	8.877	.012(significant)
	General health	3.482	.175(not significant)

α value .05 significant **

Table-4.25: Association between pain intensity category of the participants and SF-36 score category.

Result: There has association between pain intensity and energy ($\chi 2$=13.555, p=.001*), social functioning ($\chi 2$=8.877, p=.012*) and emotion ($\chi 2$=6.269, p=.041*). So, for these domain, null hypothesis is completely rejected. The phi (ϕ) co-efficient for social functioning is .284, indicating a weak association, the phi (ϕ) co-efficient for emotion is .239, indicating a weak association, the phi (ϕ) co-efficient for energy is .351, indicating a medium association. On the other hand , role limitation due to mental health ($\chi 2$=.685, p=.710) and general health($\chi 2$=3.482, p=.175), physical functioning ($\chi 2$=5.920, p=.005*) and role limitation due to physical health ($\chi 2$=1.583,p=.453*) had significance

level more than .05 (p=>.05). So, the domain is not associated with intensity of pain of the participant. So in that case null hypothesis can not be rejected.

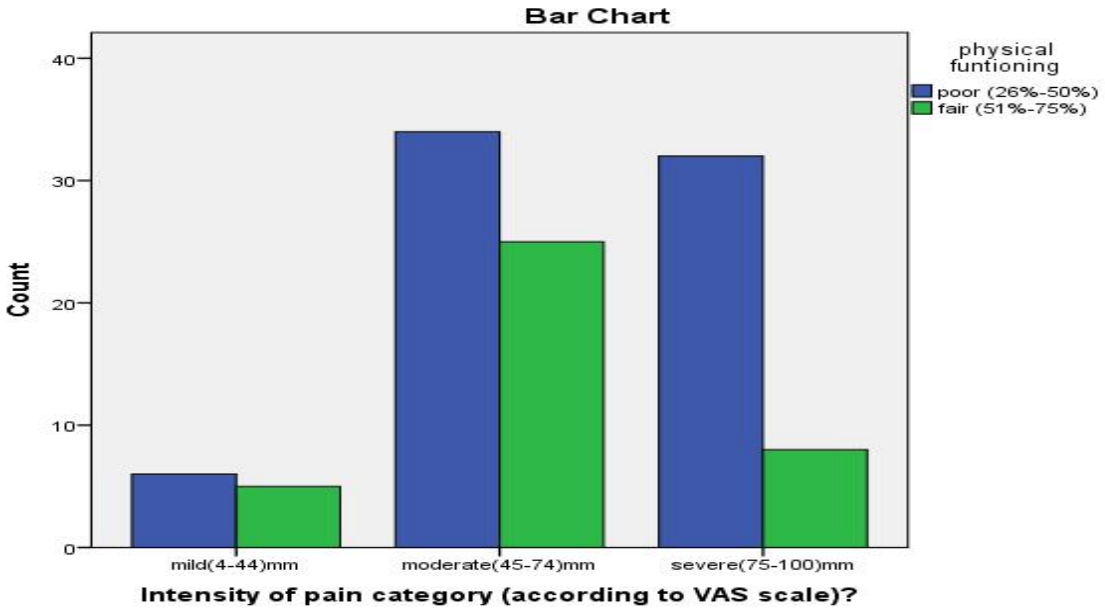


Figure-4.25.1 has shown no association in the bar chart.

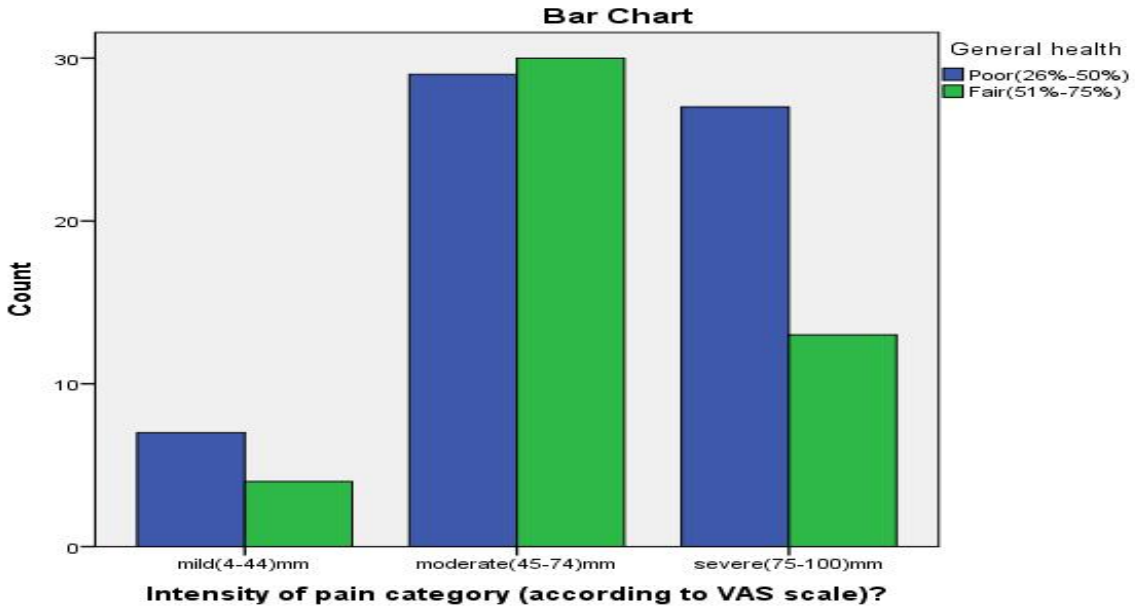


Figure-4.25.2 has shown no association in the bar chart.

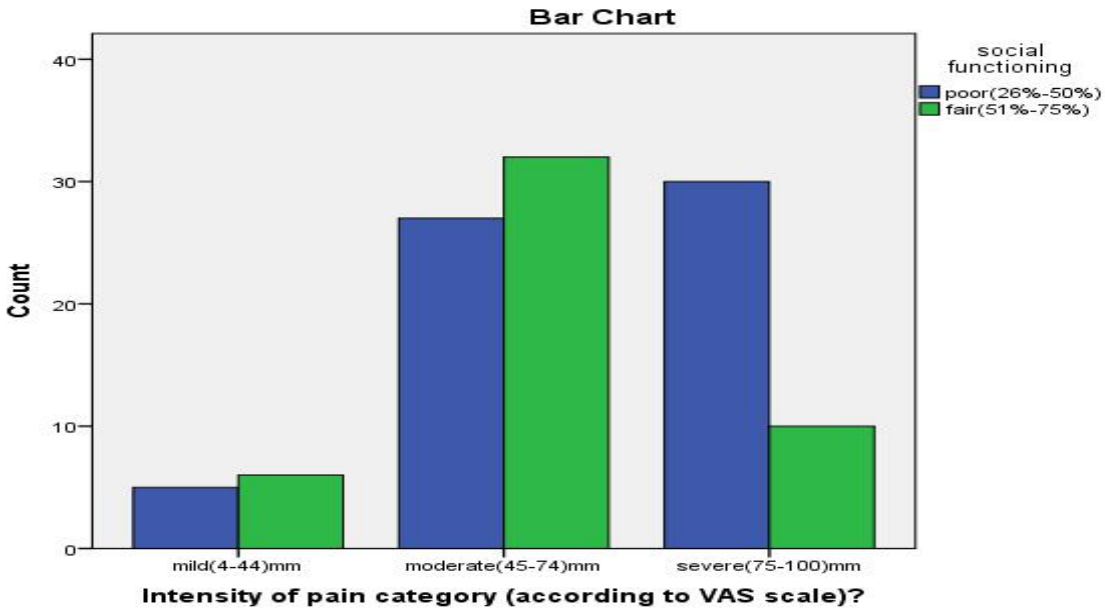


Figure-4.25.3 has shown association in the bar chart.

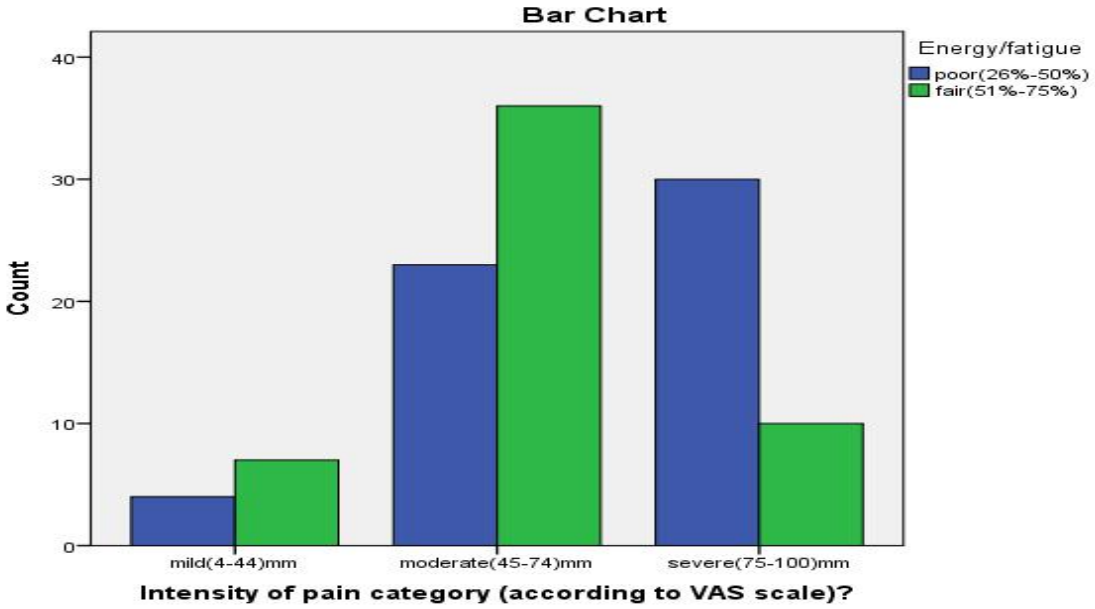


Figure-4.25.4 has shown association in the bar chart.

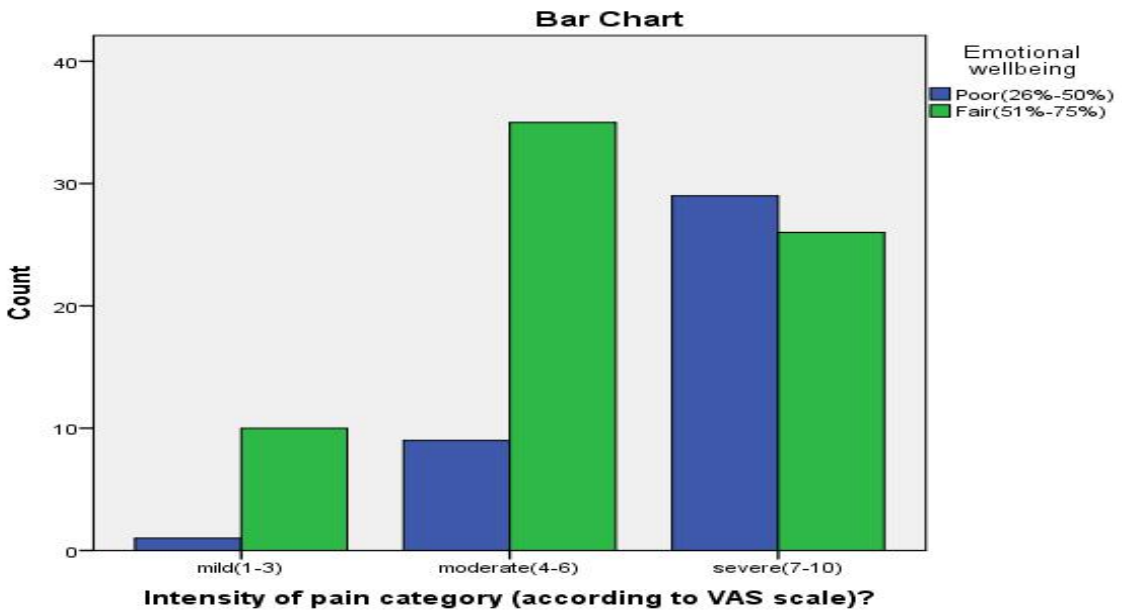


Figure-4.25.5 has shown association in the bar chart

4.26: Association between co-morbid category of the participants and SF-36 score category.

Table 4.26 shows statistical comparison between co-morbidity category of the participants and SF-36 score category.

Null Hypothesis (H_0): There is no Association between co-morbidity category of the participants and SF-36 score category.

Alternative Hypothesis (H_A): There is Association between co-morbidity category of the participants and SF-36 score category.

Test assumption:

1.Two categorical variables including two or more subcategories.

2. 0.0% cells have expected count less than 5.

Level of significance (P value < .05).

Co-morbidity category of the participants	Component of SF-36 score category	Chi-square value ($\chi 2$)	α-value
Co-morbidity category of the participants	Physical functioning	2.530	.282
	Role limitation due to physical health	2.410	.300
	Role limitation due to mental health	1.509	.470
	Energy	3.377	.185
	Emotion	1.656	.437
	Social function	1.221	.543
	Pain	1.065	.587
	General health	6.364	.04**

α value .05 . significant **

Table-4.26: Association between co-morbid category of the participants and SF-36 score category.

Result: There has no association between co-morbid category and physical functioning ($\chi 2$=2.530, p=.282), energy ($\chi 2$=3.377, p=.185), social functioning ($\chi 2$=1.221, p=.543), pain ($\chi 2$=1.065, p=.587), emotion ($\chi 2$=1.656, p=.437) and role limitation due to physical health ($\chi 2$=2.410, p=.300), role limitation due to mental health ($\chi 2$=1.509, p=.470). Their significant level was more than (p=>.05). So, the domain is not associated with co-morbid category of the participants. So in that case null hypothesis can not be rejected.

There has association between co-morbid category and general health ($\chi 2=6.364$, p=.04*). So, in that case the null hypothesis is completely rejected.

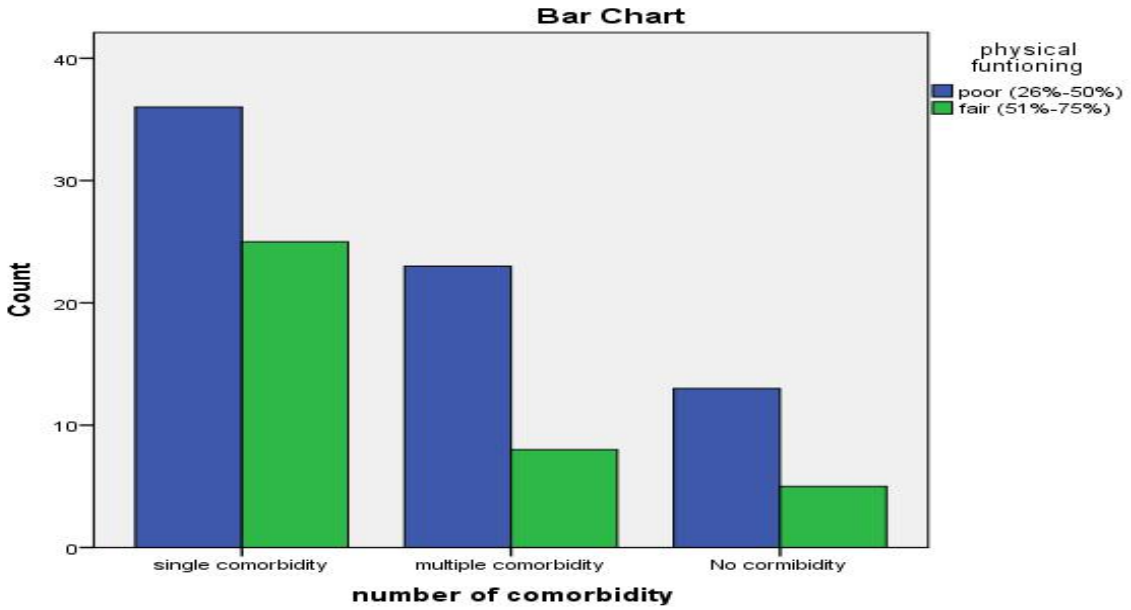
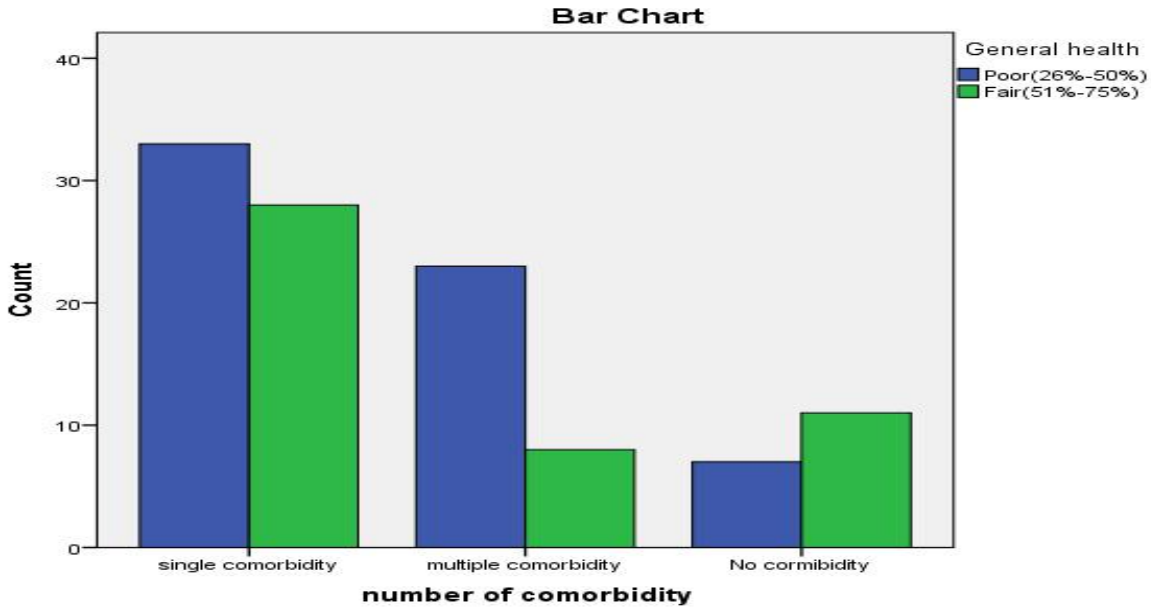


Figure-4.26.1 has shown no association in the bar chart.



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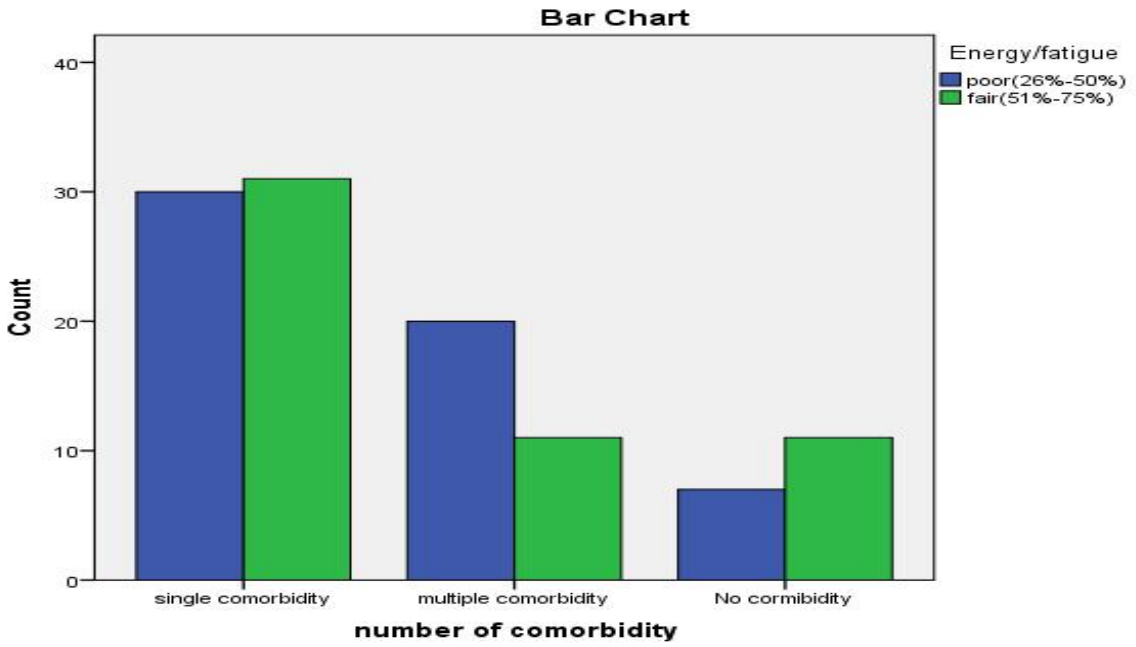
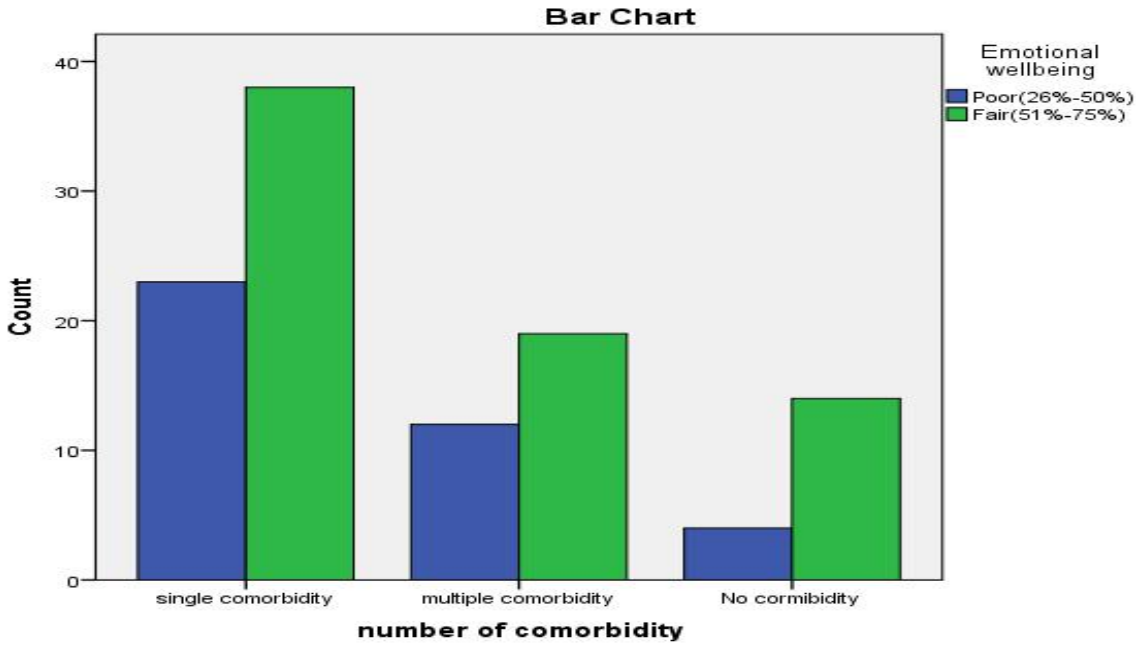


Figure-4.26.3 has shown no association in the bar chart.



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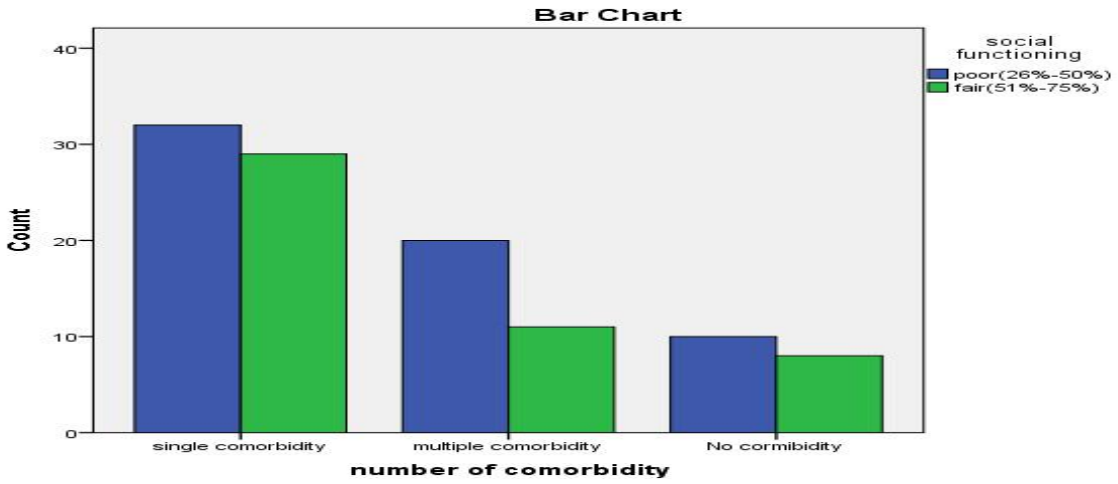

Figure-4.26.5 has shown no association in the bar chart.

4.27: Co-relation between actual age count of the participants and intensity of pain (VAS in mm).

Null H_0 - There is no association between actual age of the participants and intensity of pain (VAS in mm).

Alternative Hypothesis (H_A): There is association between actual age of the participants and intensity of pain (VAS in mm).

Test assumption : 1.Two continuous variable

2. Normally distributed
3. Presence of linear association

Level of significance (P value < .05).

Variable I	Variable II	Pearson corellation (r)	P value	Comment
Age of the participants (n=110)	Intensity of pain (VAS in mm).	.302	.001*(significant)	Significant positive weak correlation

α value .05 . significant **

Table 4.27: Co-relation between actual age count of the participants and intensity of pain (VAS in mm).

Result: This test was conducted among 110 participants who had pain . There has a relation between age of the participants and intensity of pain (VAS in mm). A significant positive weak relationship (p=.001, r= .302) was detected. Here the (p< .05) hence the null hypothesis was rejected. So, it can be said that as the age increases the pain intensity also increases.

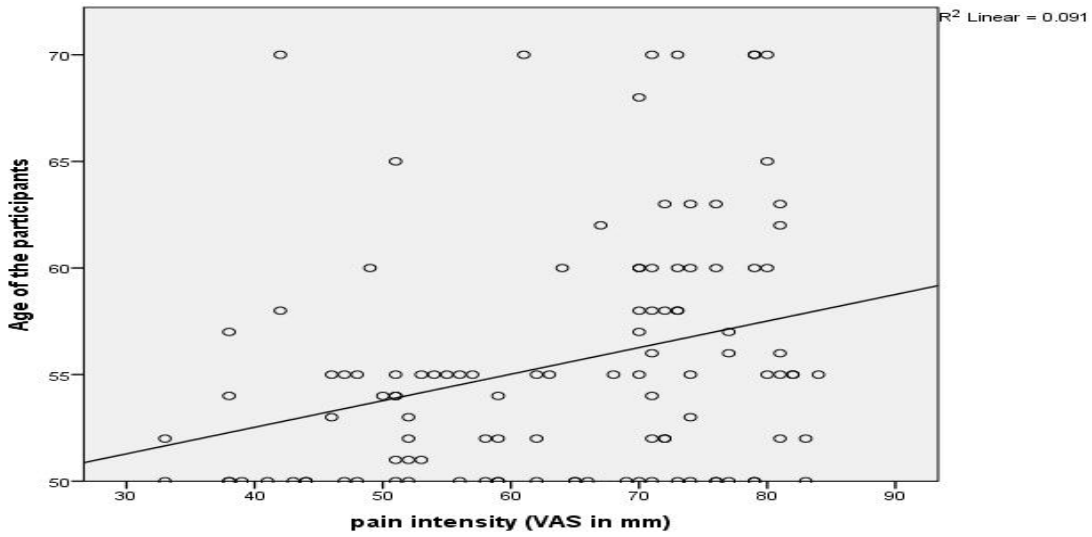

Figure 4.27.1 has shown a co-relation in scatter diagram**.**

4.28: Co-relation between actual age with 8 Domain of SF- 36

Null Hypothesis (H_0): There is no co-relation between age with 8 Domain of SF- 36

Alternative Hypothesis (H_A): There is co-relation between age with 8 Domain of SF- 36

Test assumption:

1. Two continuous variable
2. Normally distributed
3. Presence of linear association

Level of significance (P-value< .05).

Variables	Pearson correlation (r)	Significant level (p= < .05)	Comment
Age and physical functioning	-.290	.002	Significant negative Correlation
Age and general health	-.413	.000	Significant negative Correlation
Age and role limitation due to physical health	-.148	.122	Not significant
Age and role limitation due to emotional health	.065	.501	Not significant
Age and emotional well-being	-.234	.014	Significant negative Correlation
Age and energy	-.450	.000	Significant Negative Correlation
Age and social function	-.265	.005	Significant Negative Correlation

Table 4.28: Co-relation between actual Age with 8 Domain of SF- 36

Result: A negative co-relation found in every domain of SF-36, except role limitation due to emotional health. The significant value of physical functioning (r=-.290, p=.002*), energy (r=-.450, p=.000*), Emotion (r=-.234, p=.014*), Social function(r=-.265, p=.005*) , General health(r=-.413, .000*). The significant value of role emotion was (.501) which is more than(>.05). Role limitation emotional health is not co-related with age. Further role limitation emotional health creates a noticeable difference in SF-36 scoring. So, for "role limitation due to emotional health the null hypothesis can not be rejected . And for rest of 7 domains , the assumption hypothesis is accepted.

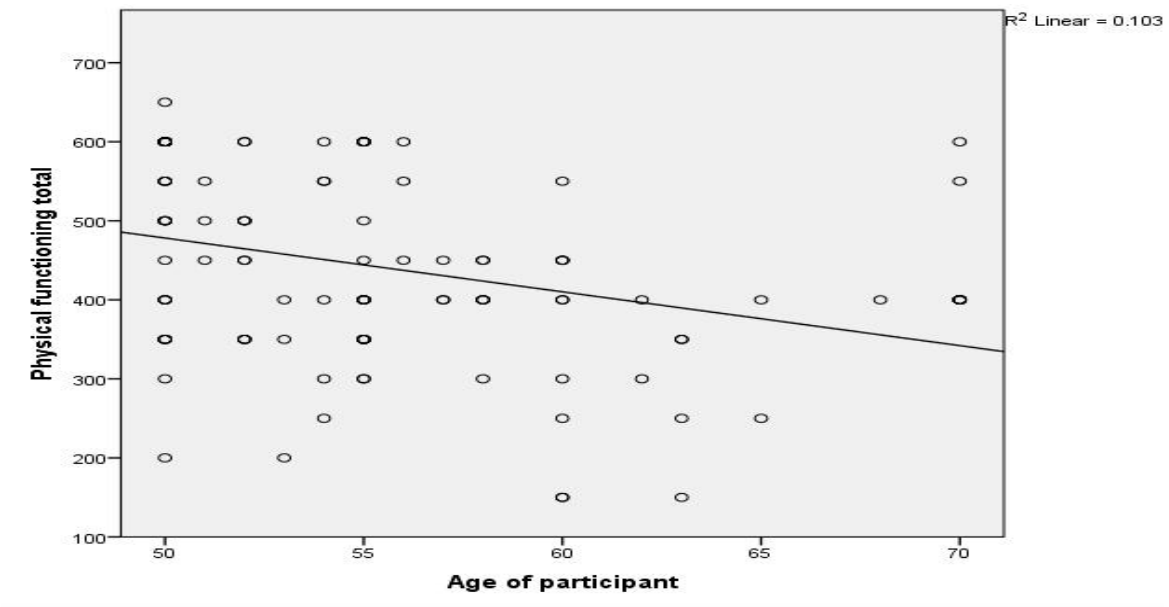

Figure 4.28.1 has shown a co-relation in a scatter diagram

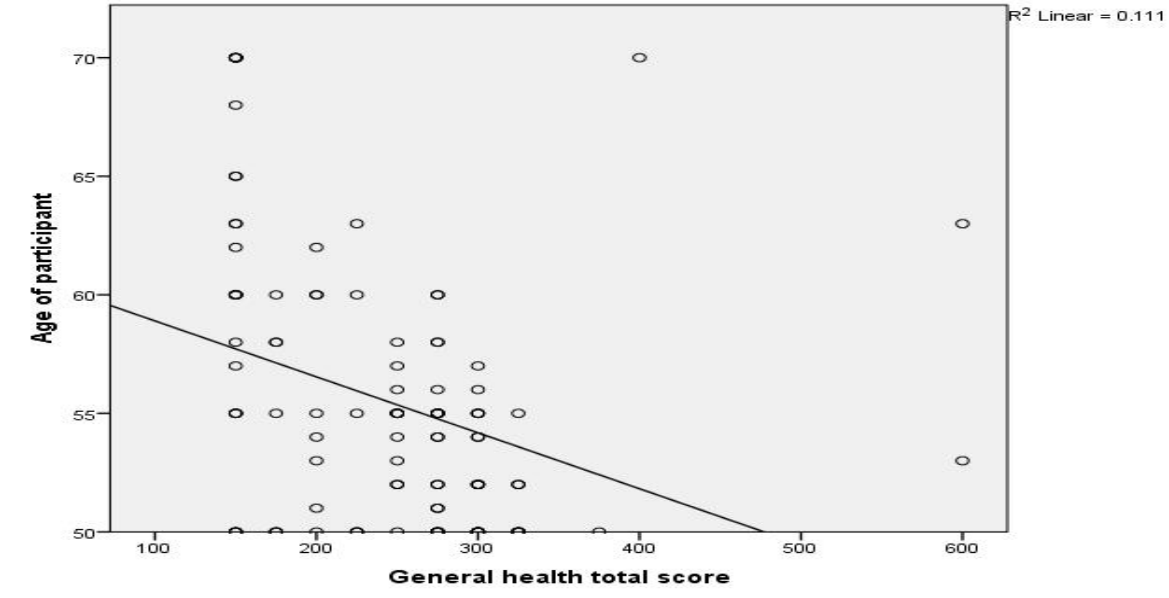

Figure 4.28.2 has shown a co-relation in a scatter diagram

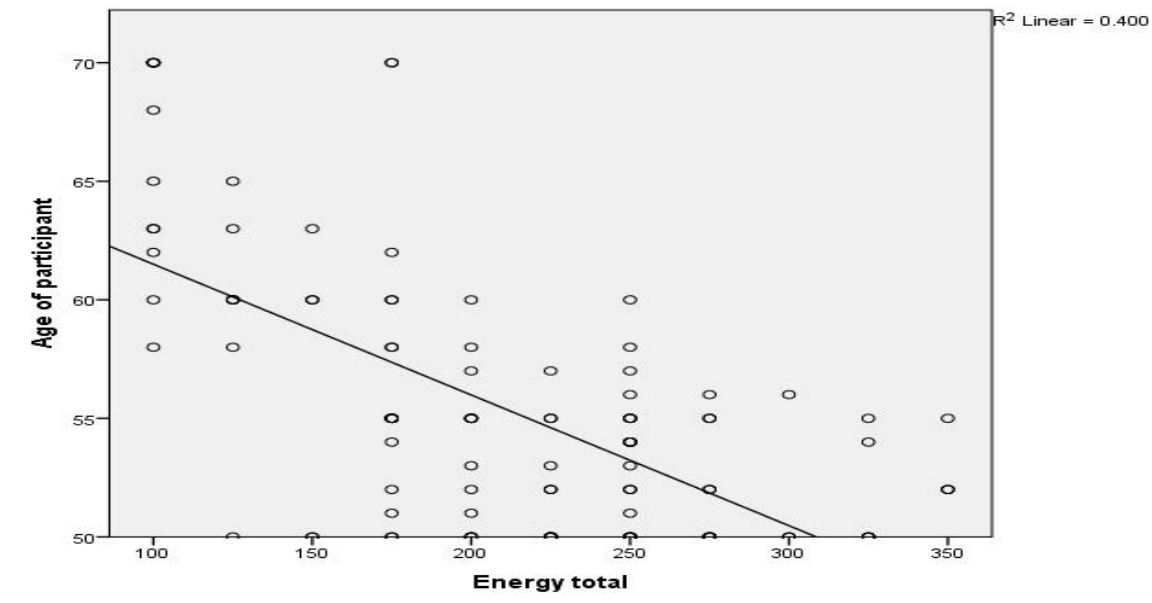

Figure 4.28.3 has shown a co-relation in a scatter diagram

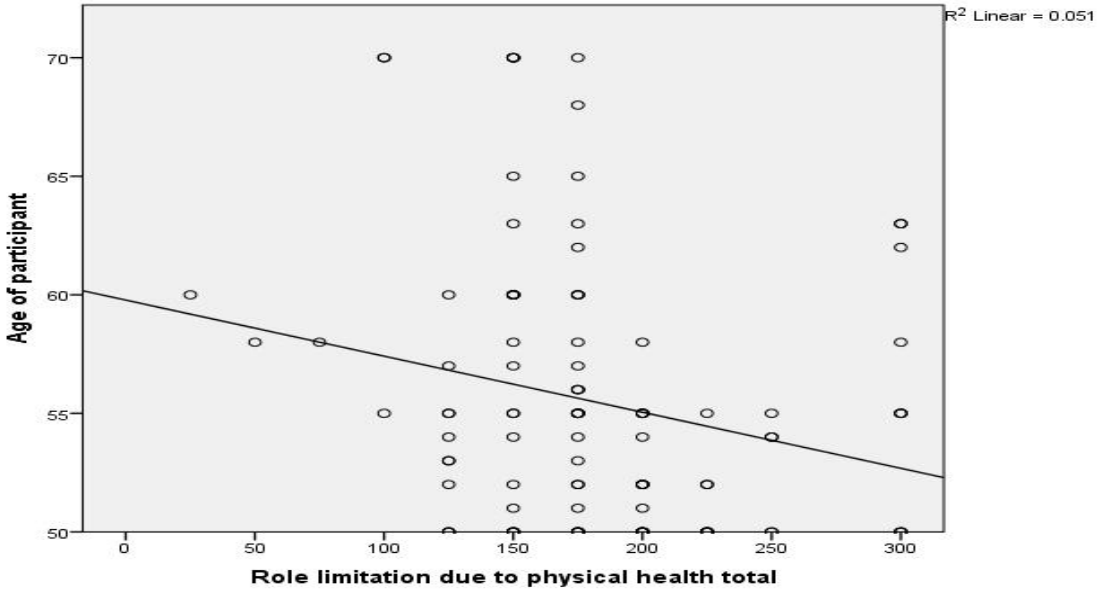

Figure 4.28.4 has shown a no co-relation in a scatter diagram

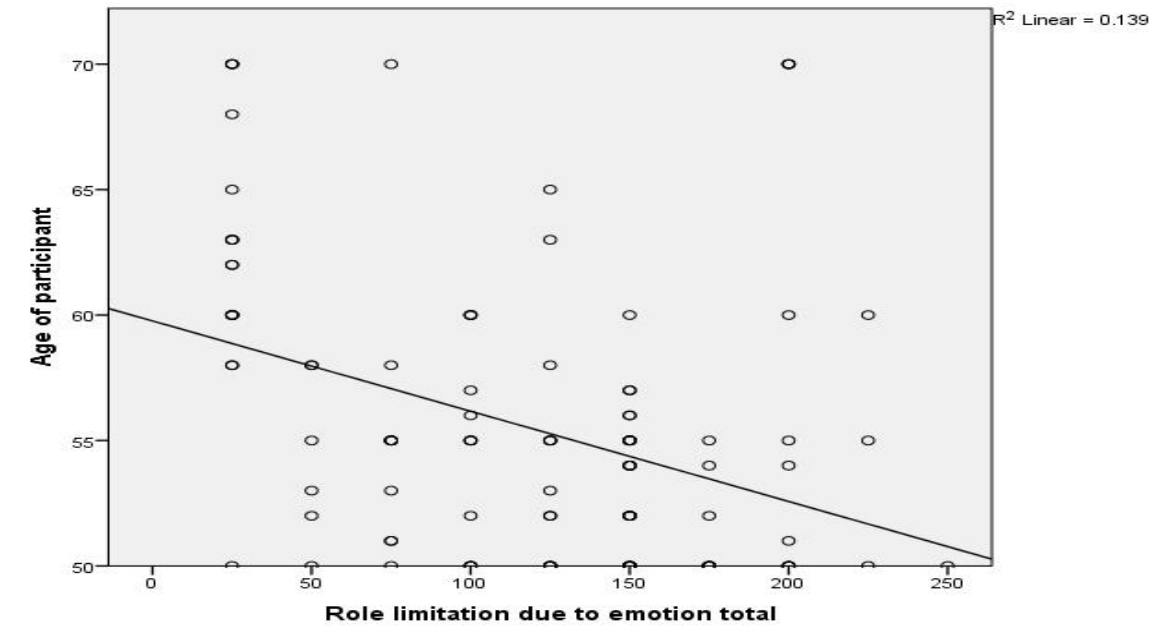

Figure 4.28.5 has shown a co-relation in a scatter diagram

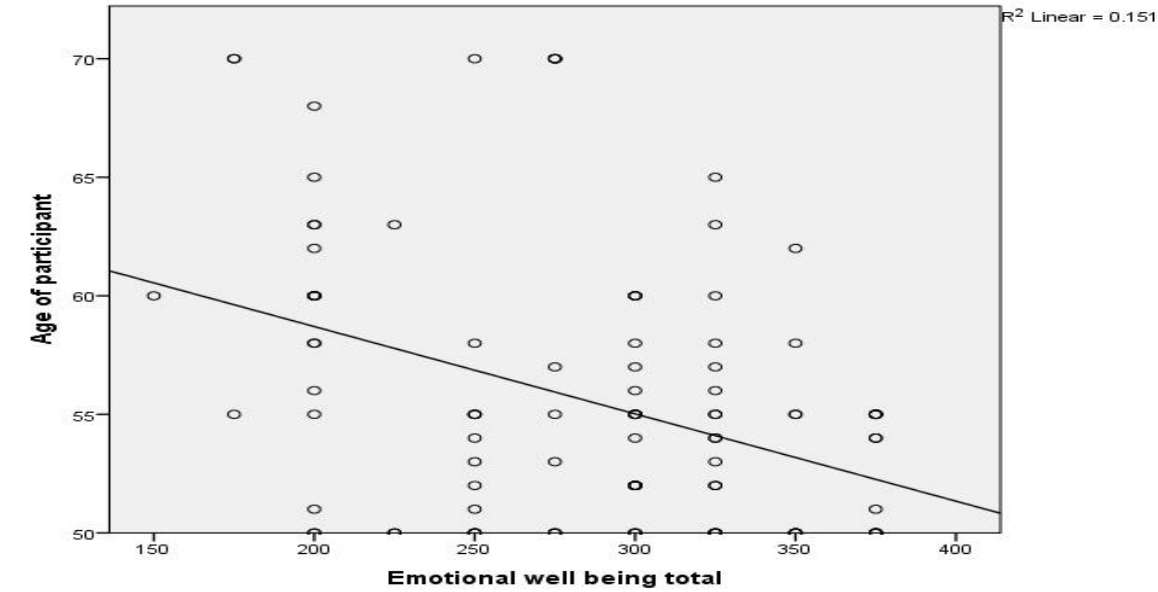

Figure 4.28.6 has shown a co-relation in a scatter diagram

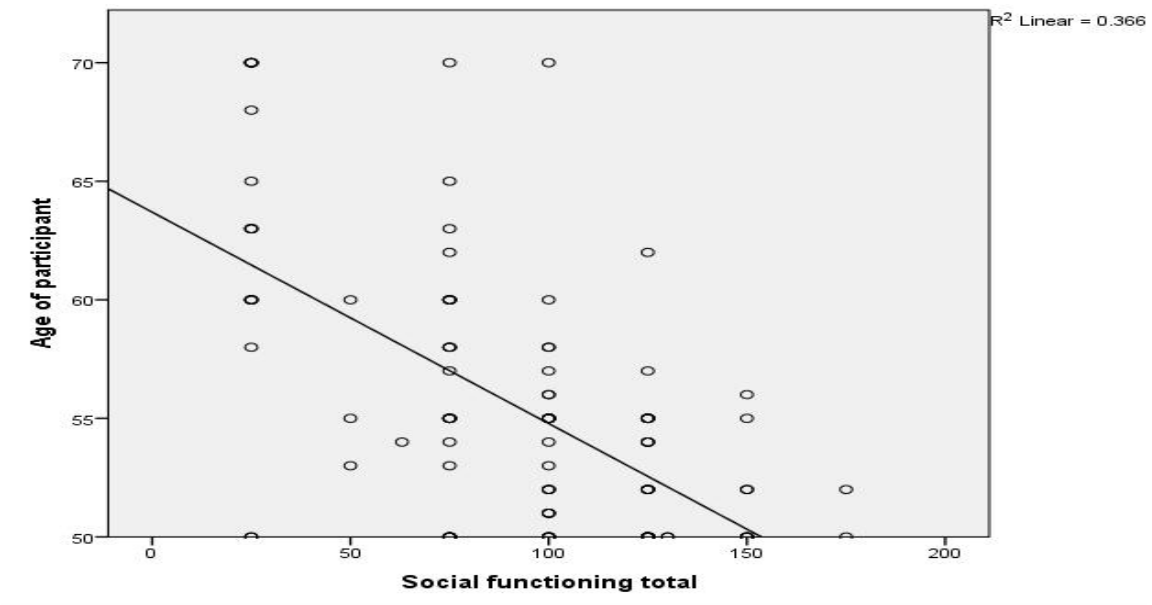

Figure 4.28.6 has shown a co-relation in a scatter diagram

4.29: Co-relation between actual Age of the participants with grand total of SF- 36

Null Hypothesis (H_0): There is no co-relation between actual age of the participants with grand total of SF- 36.

Alternative Hypothesis (H_A): There is co-relation between actual age of the participants with grand total of SF- 36.

Test assumption:

4. Two continuous variable
5. Normally distributed
6. Presence of linear association

Level of significance (P-value< .05).

Variable I	Variable II	Pearson corellation(r)	P value	Comment
Age of the participants (n=110)	SF-36 grand total	-.584**	.00*(significant)	Significant negative medium correlation

α value .05 . significant **

Table 4.29: Co-relation between actual age of the participants and grand total of SF-36.

Result: There is a relationship between age of the participants and grand total of SF-36. A significant positive weak relationship (r= -.584, p=.000) was detected. Here the (p< .05) hence the null hypothesis was rejected. So, it can be said that as the age increases the QOL is decreased which is showed by SF-36.

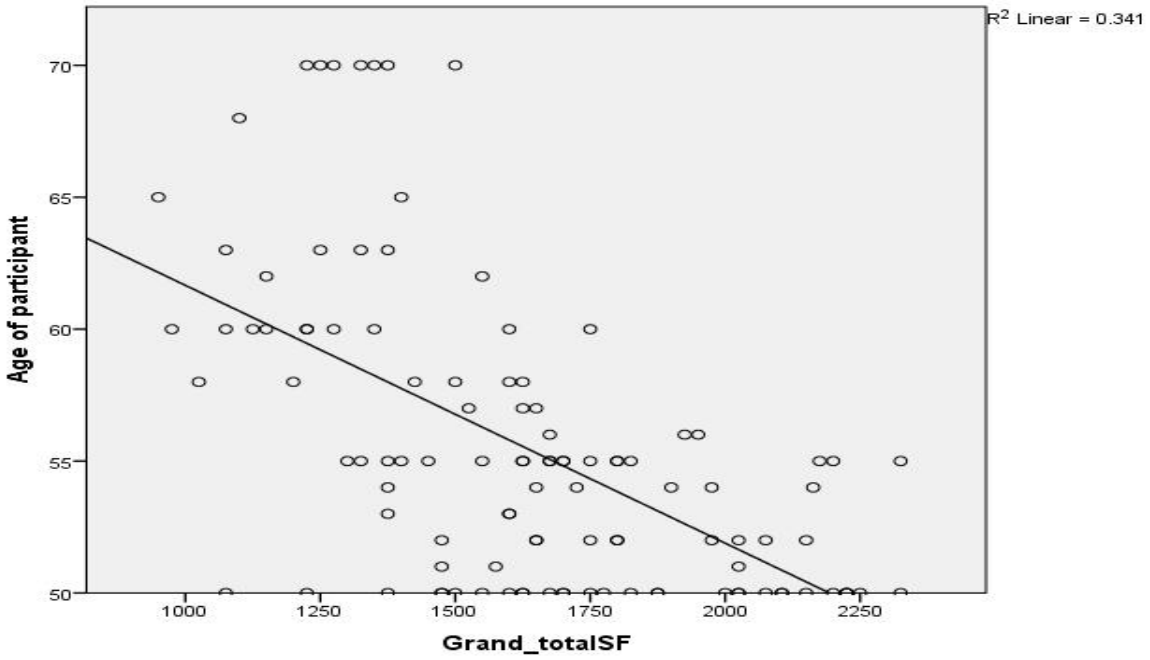

Figure 4.29.1 has shown a co-relation in a scatter diagram.

CHAPTER – V DISCUSSION

In this chapter the results of the study are discussed in relation to the research questions and objectives of the study.The aim of the research was to find out impact of low back pain on quality of life among elderly patients attending at musculoskeletal unit of CRP. Total participants were 110.

This study was conducted for the partial fulfillment of degree in Bachelor of Science in Physiotherapy. In this study, 85% (n=93) of the participants age range was 50-60 years 16%(n=17) of the participants age range was above 60 years old . In a study in Malawi (Tarimo & Diener , 2017) where 45-54 year age range were the highest range who have back pain, the range was 30%,in this study the highest percentage is 31.5% age range is 45-60 & 61-75 years suffered low back pain most.the highest percentage is 31.5% age range is 45-60 & 61-75 years suffered low back pain most.

In this study, Out of 110 participants, the majority was female 62% (n=69) and male was 38% (n=41). In a study in Canada (Gross et al., 2006) where 50.4% were male participants and female participants were 49.6%, it shows that male suffered more than female from low back pain.

In the study, maximum participants were primary passed.Out of 110 participants 17% (n=19) was illiterate, 53% (n=59)was primary passed, 16% (n=17) was S.S.C passed, 9% (n=10) H.S.C passed, 5% (n=5) was graduation (n=6%). Bindra et al., 2013 stated that the prevalence of LBP has been found to increase with age and to be more common among females. Low socioeconomic status and poor education have been found to be associated with LBP. Education level have a impact on belief about low back pain, a study in France secondary level of education among low back pain patients were 19.5%, 1.4% have no formal education, 49.1% have higher secondary,30.1% have graduate level. Lower education level has a poor outcome in low back pain (Poiraudeau et al., 2006). Another study found in Iran that among the participants 33.9% completed their basic educational level, 20.2% completed moderate educational level and 15% completed their

higher education where most affected group completed their basic educational level (Biglarian et al., 2012).

The research conducted that, 28% participants lived in rural area, 40% lived in urban area and 32% lived in semi-urban area. Another study have found, place of residence is associated with pain grade/severity (Tripp et al., 2006).

The research conducted that 2% (n=2) of patient's monthly income was <5000 Tk. Others participant's monthly income in between 5001-10000 which was 20% (n=22), 100001-20000 Tk is 66%(n=73); 12% (n=13) earns >20000TK in BDT which is the aspect of low socioeconomic status in Bangladesh.
33.3% (n=37) had related with less physical activity such as teacher, bank worker, service holders and 66.4% (n=73) had related with more physical activity such as housewives, labour s, farmers in this research. In this study the highest percentage is housewife than other occupation . By this study it is ensured that housewives are more vulnerable for LBP.

Bindra et al., 2013, stated that more physical activity related with heavy physical work in terms of lifting heavy loads, repetitive job, prolonged static posture and awkward posture have been found to be some of the risk factors of LBP. Anxiety, depression, job dissatisfaction, lack of job control and mental stress has been found to be some of the psycho-social factors related to LBP. The length of occupational exposure in terms of prolonged working hours and number of years in to present occupation have been found to be associated with LBP. Gupta said that 83% of non working housewives have low back pain. Women are by born are prone to low back pain due to anatomical structures and biological changes such as pregnancy, use of contraceptive pills and estrogen while in menopausal period. These causes change in hormone which causes laxity in the muscles and ligament of lower back, that results in dysfunctions of spine (Gupta & Nandini, 2015). Maximum overweight participants were suffer from Low back pain. But there was no significant between back pain and body type. In this research, 110 participants 23% (n=25) was ectomorph, 6% (n=7) was endomorph and 70% (n=78) was mesomorph.

The research conducted that 28% (n=31) participants had multiple comorbidity, 56% (n=61) had single comorbidity and 16% (n=18) had no comorbidity. In this research comorbidity showed significant relationship with low back pain. Ritzwoller et al., (2006) found that the presence of any comorbidity was associated with significantly longer duration of LBP related work disability.

According to a study 18% of patients have MRI and of patients have x-ray(Ivanova et al., 2011). In this study 29% have done investigation of x-ray and MRI of lumbar spine. 12.7%(n=14) had took hospitalization. Maximum patient had took medicine, the percentage is 50.9%(n=56) and 7.3% (n=8) took surgery of lumber.

The research conducted that 24%(n=26) had traumatic and had non-traumatic76%(n=84) type of pain which is responsible for low back pain among the participants.

Pain intensity was measured by the VAS Scale which range from 0-10, where 0 was equal to no pain and 10 was the most excruciating pain ever experienced.The pain intensity was then divided into the above 3 categories mild (4-44)mm ,moderate (45-74) mm and severe (75-100). The majority of the sample population experienced severe pain. Among the participants 36% (n=40) had suffered from severe LBP, 54% (n=59) had moderate low back pain and 10%(n=11) had mild low back pain.

In this study,SF-36 for the eight sub-scales, total scores may range from 0 to 100. Each scales ranging from 0 (presence all problems) to 100(no problems at all). The lowest score indicate the poor quality of life and highest score indicate the good quality of life.

Among 110 participants 66% (n=72) showed poor physical function status which is ≤ 50 and 34% (n=38) showed fair physical function status which is ≤ 75. Out of 110 participants 57%(n=63) had poor health status which is ≤ 50and 43%(n=47) had fair health status which is ≤ 75. Good and very poor did not found in any any participants.In this research role limitation due to physical health 26%(n=29) was fair which is ≤ 75 and 74%(n= 81) was poor role limitation due to physical health which is ≤ 50. The research conducted that 60%(n=67) had poor mental health status which is ≤ 25, 40%(n=43) had fair mental health status which is ≤ 75. Among 110 participants, 48% (n=53) had fair energy level which is≤ 75, 52%(n=57) had poor energy level which is ≤50. Among 110

participants, 65% had fair emotional well-being, 35%(n=32) had poor emotional well-being. 33%(n=36) had poor body pain which is ≤ 50, 67% (n=74) had fair bodily pain during last 4months. 56%(n=62) had poor social functioning which is ≤ 50, 44%(n=48%) had fair social functioning which is ≤ 75. The results of a study revealed that low total quality of life score level in the majority of the studied sample, while, moderate in 17.5% of them and high in only 5.0% of the studied sample. Higher total mean score level of quality of life of the studied sample according to dimensions in social function, role limitation emotional, role limitation physical, and energy fatigue (Zahra et al; 2020).

This study found that there is association between age category of the participants and physical functioning ($\chi2$=4.615, p=.03*), energy ($\chi2$= 14.410, p=.00*), general health ($\chi2$=11.115, p=.00*), pain ($\chi2$=4.013, p=.04*) and emotion ($\chi2$=4.798, p=.02*). On the other hand , role limitation due to mental health($\chi2$=3.288 ,p=.070 , role limitation due to physical health ($\chi2$= .083, p=.773), social function($\chi2$= 1.6564, p=.198) had significance level more than .05 (p=>.05). In present study, maximum general health was 600 and minimum was 150, maximum social function was 175 and minimum was 25. The mean score of social function was 92.25±38.57.

In present study, a relationship (r= .302, p=.001*) was detected between age of the participants and pain intensity. There is also a relationship between age of the participants and grand total of SF-36 where (r= -.584, p=.000) was detected. So, it can be said that as the age increases the QOL is decreased. Zahra et al., 2020 stated that LBP can affect patients quality of life because pain can reduce their work output and affect their social life. this study found that there was a highly significant negative correlation between total score level of quality of life and total pain score level of the studied sample (n=120) where (r=-.652** , p=<0.001*).

Limitation of the study:

There were a number of limitations and barriers in this research project which had affect the accuracy of the study.The main limitation is the absence of a standard SF-36 score for Bangladeshi population for comparison. SF-36V2 questionnaire was used in this study based on Indian population and their culture although there are quite differences in culture and population. SF-36V2 questionnaire was used in this study based on Indian population and their culture although there are quite differences in culture and population. The samples were collected only from the CRP at Savar and the sample size was not big to make a generalized to the whole population of LBP patients in Bangladesh. The researcher wanted to apply hospital based random sampling technique but there was interruption of academic activity because of pandemic situation covid-19 as a result the researcher applied convenient sampling technique which was not reflecting the wider population under study. If the researcher had sufficient budget she will be able to increase the data collection area to achieve the target sample size**.**There was little evidence to support the result of this project in the context to Bangladesh. The research project was done by an undergraduate student and it was first research project for him. So the researcher had limited experience with techniques and strategies in terms of the practical aspects of research. As it was the first survey of the researcher so might be there were some mistakes that overlooked by the supervisor and the honorable teacher.

CHAPTER – VI CONCLUSION AND RECOMMENDATION

6.1 CONCLUSION

Low back pain is considered as an emerging public health issues as it imposes an enormous economic burden on the individuals, families, society and government throughout the world. It is extremely a major cause of severe, long-term impairment on quality of life leading to morbidity state. Individuals with chronic LBP will have a greater impact on quality of life that are required to maintain daily lifestyle.

The aim of the study was to assess the impact of low back pain on quality of life among elderly. This study suggests, in accordance with previous reports, that LBP is a common problem that increases with age. Most of them complained about moderate to severe pain during interview and reported that their pain interfered on daily life. A strong association was found between LBP and physical functioning, general health, energy, emotional well-being, role limitation due to physical health, mental health, bodily pain and social functioning. In addition, the study found pain intensity to be the best predictor and strong contributor to QOL.

6.2 Recommendation:

The aim of the study was to assess the the impact of low back pain on quality of life among elderly attending at Musculoskeletal unit of physiotherapy department at CRP.
Though the study had some limitations but investigator identified some further step that might be taken for the better accomplishment of further research. The main recommendations would be as follow:

• Patients screening is suggested before collecting data for preventing drop-out of the participants.This study was done in hospital setting. So, home based and community based quality of life study for LBP patients is encouraged with large sample size and patient follow-up.

• In this study, the investigator collected data from a selected hospital setting. So for further study investigator strongly recommended to include different hospital settings from all over the Bangladesh to ensure the generalized ability of this study.

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Appendix-I: Inform Consent

Assalamu-Alaikum,

I am Naricha Akter, 4th year BSc in Physiotherapy student. I am conducting this thesis as per the requirement of my study module. The Thesis titled **"Impact of Low Back Pain (LBP) on Quality of Life (QOL) among elderly people".**

The study aim is to find out the impact of low back pain on Quality of life among elderly patients attending at CRP, Savar. To find out that I need to ask several questions to the participants**.** The entire session will take approximately 15-20 minutes.

I would like to also inform you that this is a purely academic study and will not be used for any other purpose. Your participation in the research will have no impact on your present or future treatment. All information provided by you will be kept confidential and in the event of any report or publication, it will be ensured that the source of information remains secret.

Your participation in this study is voluntary and you may withdraw yourself at any time during this study. You also have the right not to answer a particular question that you don't like or do not want to answer during the interview.

Your participation will be voluntary therefore any type of remuneration will not be provided. No additional intervention will be provided.

If you have any queries about the study you may contact me(mob no- and/or my research supervisor, Asma Islam, Assistant Professor of physiotherapy, Bangladesh Health Professions Institute (BHPI), CRP-Savar, Dhaka-1343.

So, may I have your consent to proceed with the interview?

Yes / No

Signature and date of the Participant …….

Signature and date of the Interviewer ……

Signature and date of the Researcher …….

Appendix-II: সম্মতিপত্র বাংলা

আসসালামু আলাইকুম,

আমি নারিচা আক্তার, ৪র্থ বর্ষ বি এস সি ইন ফিজিওথেরাপির ছাত্রী। এই গবেষনা প্রকল্পটি আমার কোর্স এর অধিভুক্ত । আমি "**প্রবীনদের জীবনযাত্রার মানের উপর কোমর ব্যথার (লো ব্যাক পেইন) প্রভাব**" এর উপর গবেষনা করছি ।

এই গবেষনার উদ্দেশ্য হলো "**প্রবীনদের জীবনযাত্রার মানের উপর কোমর ব্যথার (লো ব্যাক পেইন) প্রভাব**" নির্ণয় করা ।আমি এক্ষেত্রে আপনাকে কিছু ব্যক্তিগত রোগের বৈশিষ্ট্য এবং সংশ্লিষ্ট নিয়ামকের আনুসাংগিক কিছু প্রশ্ন করতে চাচ্ছি এতে আনুমানিক ১৫-২০ মিনিট সময় লাগবে। আমি আপনাকে অনুগত করছি যে, এটা আমার অধ্যয়নের অংশ এবং যা অন্য কোনো উদ্দেশ্যে ব্যবহৃত হবে না।এই গবেষনায় আপনার, অংশগ্রহণ বর্তমান ও ভবিষ্যত চিকিৎসায় কোনো প্রকার প্রভাব ফেলবে না।আপনি যেসব তথ্য প্রদান করবেন তার গোপনীয়তা বজায় থাকবে এবং আপনার প্রতিবেদনের ঘটনা প্রবাহে এটা নিশ্চিত করা হবে যে এই তথ্য এর উৎস অপ্রকাশিত থাকবে। এ অধ্যয়নে আপনার অংশগ্রহণ স্বেচ্ছা প্রনোদিত এবং আপনি যে কোনো সময় এই. অধ্যয়ন থেকে কোনো নেতিবাচক ফলাফল ছাড়াই নিজেকে প্রত্যাহার করতে পারবেন। এছাড়াও কোনো নির্দিষ্ট প্রশ্ন অপছন্দ হলে উত্তর না দেয়া এবং সাক্ষাত্কারের সময় কোনো উত্তর না দিতে চাওয়ার অধিকারও আপনার আছে। এই অধ্যয়নে অংশগ্রহণকারী হিসাবে যদি আপনার কোনো প্রশ্ন থাকে তাহলে আপনি আমার সাথে অথবা নিম্নবর্নিত ব্যক্তির সাথে যোগাযোগ করতে পারবেন।

নারিচা আক্তার

চতুর্থ বর্ষ

বি এস সি ইন ফিজিওথেরাপি

বি এইচ পি আই,সি আর পি

(মোবাইল নং- ০১৯৬৮-৫৬৬৯৮১)

তাহলে, আমি কি আপনার সম্মতিতে সাক্ষাত্কার শুরু করতে পারি ?

হ্যাঁ/না

অংশগ্রহণকারীর স্বাক্ষর এবং তারিখ _____

উপাত্তকারীর স্বাক্ষর এবং তারিখ _____

গবেষকের স্বাক্ষর এবং তারিখ _____

Questionnaire (English)

Code Number :

Part-1:Personal Details

Name of participant :

ID Number :

Address :

Village :

Contact number :

Date of interview :

Name of Recipient :

Part-2: Socio Demographic Information

This questionnaire is developed to measure the quality of life of LBP patients and this section will be filled by physiotherapist using a pen.

Patient ID:

Date of test:

Please give tick (√) mark at the left side box of the best correct answer

Question Number	**Questio bns/ Information on**	**Response of the participant**	**Code No.**
1.1	Age (in year):	……..years	
1.2	Sex	o Male o Female	**01** **02**
1.3	Residential area	o Rural o Urban o Semi urban	**01** **02** **03**
1.4	Educational status	o Illiterate o Primary o Secondary School Certificate (SSC) o Higher Secondary Certificate (HSC) o Bachelor o Masters or above	**01** **02** **03** **04** **05** **06**

1.5	Marital Status	○ Married ○ Widow	**01** **02**
1.6	Occupation	○ Occupation related to more physical activity ○ Occupation related to less physical activity	**01** **02**
1.7	Body type	○ Ectomorph ○ Mesomorph ○ Endomorph	**01** **02** **03**
1.8	Do you have any chronic disease?	○ HTN ○ DM ○ Heart diseases ○ Asthma	**01** **02** **03** **04**
1.9	Number of co-morbidity	○ Single co-morbidity ○ Multiple co-morbidity ○ No co-morbidity	**01** **02** **03**
1.10	Monthly income (BDT TK)		
1.11	Please specify the area of expenditure for the treatment purpose of low back pain for the last six months.	○ Medicine ○ Hospital ○ Investigation ○ Surgery	**01** **02** **03** **04**

1.12	Any kind of physical trauma?	o Traumatic o Non-traumatic	**01** **02**
1.13	Walking pattern	o Normal o Abnormal	**01** **02**
1.14	Unusual posture (Sitting and Standing)	o Yes o No	**01** **02**
1.15	Which type of posture?	o Slouch o Scoliosis o Lordotic	**01** **02** **03**
1.16	Duration of pain	o (0-3) weeks o (4-12) weeks o (13-24) weeks o 24 weeks above	**01** **02** **03** **04**
1.17	How would you rate your back pain on average at present? VAS SCALE (10 CM)  0 cm No Pain — 10 cm Severe Pain		

Part 3: Quality of Life Scale (SF-36 V2 Health Survey)

This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities.

1. In general, would you say about your health-related quality of life?

- o Excellent
- o Very good
- o Good
- o Fair
- o Poor

2. Compared to one year ago, how would you rate your health in general now?

- o Much better now than a year ago
- o Somewhat better now than a year
- o About the same as one year ago
- o Somewhat worse now than one year ago
- o Much worse now than one year ago

3. The following items are about activities you might to do during a typical day. Does your health now limit you in these activities? If so, how much?

3.1 Vigorous activities, such as running, lifting heavy object, participating in strenuous sports.

- o Yes, limited a lot
- o Yes, limited a little
- o No, not limited at all

3.2 Moderate activates, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf?

- Yes, limited a lot
- Yes, limited a little
- No, not limited at all

3.3 Lifting or carrying groceries

- Yes, limited a lot
- Yes, limited a little
- No, not limited at all

3.4 Climbing several flights of stairs

- Yes, limited a lot
- Yes, limited a little
- No, not limited at all

3.5 Climbing one flight of stairs.

- Yes, limited a lot
- Yes, limited a little
- No, not limited at all

3.6 Forward bending, kneeling or stooping

- Yes, limited a lot
- Yes, limited a little
- No, not limited at all

3.7 Walking more than a mile

- Yes, limited a lot
- Yes, limited a little
- No, not limited at all

3.8 Walking several hundred yards

- Yes, limited a lot
- Yes, limited a little
- No, not limited at all

3.9 Walking one hundred yards

- Yes, limited a lot
- Yes, limited a little
- No, not limited at all

3.10 Bathing or dressing yourself

- Yes, limited a lot
- Yes, limited a little
- No, not limited at all

4. During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of a physical health?

4.1 Cut down on the amount of time you spent on work or other activities

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

4.2 Accomplished less than you would like?

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

4.3 Were limited in the kind of work or other activities?

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

4.4 Had difficulty performing the work or other activities (for example, it took extra time)

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

5. Have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depression or anxious)?

5.1 Cut down the amount of time you spent on work or other activities?

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

5.2 Accomplished less than you would like?

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

5.3 Didn’t do work or other activities as carefully as usual

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

6. What extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors or groups?

- Not at all
- Slightly
- Moderately
- Quite a bit
- Extremely

7. How much bodily pain have you had during the past 4 week?

- Not at all
- Slightly
- Moderately
- Quite a bit
- Extremely

8. How much pain interferes with your normal work (including both work outside the home and housework?

- Not at all
- Slightly
- Moderately
- Quite a bit
- Extremely

9. These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks?

9.1 Did you fell full of pep?

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

9.2 Have you been a very nervous person?

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

9.3 Have you felts so down in the dumps nothing could cheer you up?

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

9.4 Have you felt calm and peaceful?

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

9.5 Did you have a lot of energy?

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

9.6 Have you felt downhearted and blue?

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

9.7 Did you feel worn out?

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

9.8 Have you been a happy person?

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

9.9 Did you feel tired?

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

10. How much of the time physical or emotional problems interfere your social activities (like visiting friends, relative neighbors etc.)?

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

11. How true or false is each of the following statements for you?

11.1 I seem to get sick a little easier than other people

- Definitely true
- Mostly true
- Don’t known
- Mostly false
- Definitely false

11.2 I am as healthy as anybody I know

- Definitely true
- Mostly true
- Don’t known
- Mostly false
- Definitely false

11.3 I expect my health to get worse

- Definitely true
- Mostly true
- Don’t known
- Mostly false
- Definitely false

11.4 My health is excellent

- Definitely true
- Mostly true
- Don’t known
- Mostly false
- Definitely false

প্রশ্নপত্র বাংলা

কোড নং

পর্বঃ০১- ব্যক্তিগত বিবরণ

অংশগ্রহণকারীর নাম / কোডঃ

ঠিকানাঃ

গ্রাম.....

মোবাইল নাম্বারঃ

যোগাযোগের নাম্বারঃ

রোগীর আইডিঃ

সাক্ষাৎকারের তারিখঃ

পর্বঃ০২- জনসংখ্যাতাত্ত্বিক তথ্যাবলী

এই প্রশ্নপত্রটি প্রবীনদের জীবনযাত্রার মানের উপর কোমর ব্যথার (লো ব্যক পেইন) প্রভাব" নির্ণয় করার জন্য তৈরি করা হয়েছে এবং এই পর্বটি ফিজিওথেরাপিস্ট বলপেন ববহার করে পূরণ করবেন।

অনুগ্রহপুবক নিচের প্রশ্নপত্র গুলির মধ্যে সঠিক উত্তরের বাম পাশে । টিক(√) চিহ্ন দিন।

ক্রমিক নং	প্রশ্নসমূহ	অংশগ্রহণকারীর মতামত	কোড নং
১.১	বয়স (বছর)	.....বছর	
১.২	লিঙ্গ	○ পুরুষ ○ মহিলা	০১ ০২
১.৩	বসবাসের স্থান	○ গ্রামীণ ○ শহুরে ○ শহরতলির	০১ ০২ ০৩
১.৪	শিক্ষাগত যোগ্যতা	○ নিরক্ষর ○ প্রাইমারি ○ এস এসসি	০১ ০২ ০৩

		○ এইচ এসসি ○ স্নাতক পাস ○ স্নাতকোত্তর	০৪ ০৫ ০৬
১.৫	বৈবাহিক অবস্থা	○ বিবাহিত ○ অবিবাহিত ○ বিধবা	০১ ০২ ০৩
১.৬	পেশা	○ বেশি শারীরিক কার্যকলাপ সম্পর্কিত পেশা ○ কম শারীরিক কার্যকলাপ সম্পর্কিত পেশাবসায়ী	০১ ০২
১.৭	শারীরিক প্রকার	○ চিকন/পাতলা ধরনের ○ মাঝারি ধরনের ○ মোটা ধরনের	০১ ০২ ০৩
১.৮	আপনার কোনো দীর্ঘস্থায়ী রোগ আছে কি না?	○ উচ্চ রক্তচাপ ○ বহুমুত্র ○ হৃদ রোগ ○ শ্বাসকষ্ট	০১ ০২ ০৩ ০৪
১.৯	দীর্ঘস্থায়ী রোগের সংখ্যা	○ একটি দীর্ঘস্থায়ী রোগ ○ বহু দীর্ঘস্থায়ী রোগ	
১. ১০	মাসিক আয়		
১. ১১	অনুগ্রহ করে কোমর ব্যাথার জন্য ব্যায় ক্ষেত্র নির্দিষ্ট করুন (গত ছয় মাসে)	○ ঔষধ ○ হাসপাতাল ○ অনুসন্ধান ○ শল্যচিকিৎসা	০১ ০২ ০৩ ০৪
১.১২	যে কোনও ধরণের শারীরিক আঘাত	○ আঘাত জনিত ○ আঘাত জনিত না	০১ ০২

১.১৩	হাঁটার নিদর্শন	○ স্বাভাবিক ○ অস্বাভাবিক	০১ ০২ ০৩
১.১৪	অস্বাভাবিক ভঙ্গি (বসা এবং দাঁড়ানো)	○ হ্যাঁ ○ না	০১ ০২
১.১৫	কোন ধরণের ভঙ্গি	○ কুঁজো ○ এক পাশে বাঁকানো ○ মেরুদণ্ডের সামনের বক্রতা	০১ ০২ ০৩
১.১৬	ব্যথার সময়কাল	○ (০ - ৩) সপ্তাহ ○ (৪ - ১২) সপ্তাহ ○ (১৩ - ২৪) সপ্তাহ ○ ২৪সপ্তাহের বেশি	০১ ০২ ০৩ ০৪
১.১৭	আজ আপনার ব্যাথা কত মাত্রায় আছে? ০ সে.মি **ব্যাথা নেই** ১০ সে.মি **অনেক ব্যাথা**		

পর্বঃ০৩-জীবনযাত্রার মান (এস এফ-৩৬ স্বাস্থ্য জরিপ)

এই প্রশ্নগুলোতে আপনার স্বাস্থ্য সম্পর্কে আপনার মতামত জানতে চাওয়া হয়েছে। এই তথ্যগুলি দিয়ে আপনি কি অনুভব করেন এবং কতটা ভালোভাবে আপনার প্রাত্যহিক কাজ সম্পাদনে সক্ষম সে ব্যাপারে নজর রাখতে সাহায্য করবে।এই সমীক্ষাটি সম্পূর্ণ করার জন্য আপনাকে ধন্যবাদ।

নিম্নলিখিত প্রতিটি প্রশ্নের উত্তরগুলগুলোর মাঝে যেটিকে আপনার সবচেয়ে সঠিক বলে মনে হয়, অনুগ্রহপূর্বক সেগুলোতে টিক চিহ্ন দিন।

১।সাধারণ ভাবে বলতে আপনার মতে আপনার স্বাস্থ্য হলঃ

- চমৎকার
- খুব ভালো
- মোটামুটি
- খারাপ

২। গত এক বছরের সাথে তুলনা করলে আপনার স্বাস্থ্য কেমন?

- গত এক বছরের তুলনায় এখন অনেক ভালো
- গত এক বছরের তুলনায় এখন খানিকটা ভালো
- প্রায় গত এক বছরের মতন
- গত এক বছরের তুলনায় এখন কিছুটা খারাপ
- গত এক বছরের তুলনায় এখন অনেক খারাপ

৩। নিম্নলিখিত প্রশ্নগুলি আপনি একটি সাধারণ দিনে যেসব কাজকর্ম করে থাকেন সেই সম্পর্কিত। আপনার স্বাস্থ্য কি আপনার কাজকর্মে বাধা হয়ে দাঁড়িয়েছে?যদি হয়,তবে কতটুকু?

৩.১। খুব পরিশ্রমসাধ্য কাজগুলি, যেমন দৌড়ানো,ভারি জিনিস তোলা, শ্রমসাধ্য খেলাধুলা করা-

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

৩.২।অপেক্ষাকৃত কম পরিশ্রমসাধ্য কাজগুলি যেমন টেবিল সরানো, ঘর ঝারু দেওয়া, বাগানে কাজ করা অথবা সাইকেল চালানো –

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

৩.৩। মুদিখানার পন্যদ্রব্য তোলা বহন করা-

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

৩.৪। কয়েকতলা সিড়ি বেয়ে উঠা-

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

৩.৫। একতলা সিড়ি বেয়ে উঠা-

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

৩.৬। ঝুকে কিছু করা, হাটু গেড়ে বসা,নিচু হয়ে কাজ করা –

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

৩.৭। এক মাইলের বেশি হাঁটা –

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

৩.৮।কয়েকশত মিটার হাঁটা –

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

৩.৯।একশো মিটার হাঁটা –

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

৩.১০।নিজে নিজে গোসল করা বা জামাকাপড় পড়া-

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

৪। বিগত চার সপ্তাহে প্রাত্যহিক জীবনের কাজগুলো সম্পাদন করতে গিয়ে আপনার স্বাস্থ্যের জন্য আপনি কি পরিমাণ সমস্যার মুখে পড়েছেন?

৪.১।আপনার কর্মস্থলে এবং অন্যান্য কাজগুলোতে আপনি কম সময় দিয়েছেন-

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়
- কখনও না

৪.২। আপনি যতটুকু চেয়েছিলেন তার চেয়ে কম কাজ করেছেন-

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়
- কখনও না

৪.৩। আপনার নিজের কাজ বা অন্যান্য কাজেই সীমাবদ্ধ ছিলেন-

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়
- কখনও না

৪.৪।আপনার নিজের কাজ বা অন্যান্য কাজ করতে গিয়ে অসুবিধা বোধ করেছিলেন –

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়
- কখনও না

৫।বিগত চার সপ্তাহে প্রাত্যহিক জীবনের কাজগুলো সম্পাদন করতে গিয়ে আপনার মানসিক সমস্যার কারণে আপনি নিচের কোন সমস্যাগুলোর মুখে পড়েছেন? (যেমন- মানসিক চাপ বা দুশ্চিন্তাগ্রস্থ হওয়া)।

৫.১।আপনার কর্মস্থলে এবং অন্যান কাজগুলোতে আপনি কম সময় দিয়েছেন-

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়
- কখনও না

৫.২। আপনি যতটুকু চেয়েছিলেন তার চেয়ে কম কাজ করেছেন-

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়
- কখনও না

৫.৩।অন্যান্য সময়র চেয়ে কাজে কম মনোযোগ দিয়েছেন-

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়
- কখনও না

৬।বিগত চার সপ্তাহে আপনার শারীরিক বা মানসিক সমস্যা গুলি আপনার পরিবার, বন্ধুবান্ধব, প্রতিবেশী বা গোষ্ঠীর সাথে সামাজিক কাজকর্মে কতখানি বাঁধা সৃষ্টি করেছে?

- একেবারে না
- সামান্য রকম
- মাঝামাঝি রকম
- অনেক খানি
- অত্যন্ত বেশিরকম

৭।গত চার সপ্তাহে, আপনি কতখানি শারীরিক ব্যথা অনুভব করেছেন?

- একেবারে না
- সামান্য রকম
- মাঝামাঝি রকম
- অনেক খানি
- অত্যন্ত বেশিরকম

৮। গত চার সপ্তাহে, আপনি কতখানি শারীরিক ব্যথা আপনার প্রাত্যহিক কাজে কি পরিমান বাধার সৃষ্টি করছে (ঘরে ও বাইরে)।

- একেবারে না
- সামান্য রকম
- মাঝামাঝি রকম
- অনেক খানি
- অত্যন্ত বেশিরকম

৯। বিগত চার সপ্তাহে আপনার শারিরিক অবস্থা কেমন ছিল এবং আপনি কেমন অনুভব করেছিলেন নিচের প্রশ্নগুলি সেই সম্পর্কিত। প্রতিটি প্রশ্ন এর জন্য আপনি যেমন করেছিলেন সে অনুযায়ী সবচেয়ে প্রযোজ্য উত্তরটি দিন।

গত চার সপ্তাহে কতবার,

৯.১। আপনি কি খুব সাচ্ছন্দ্ববোধ করেছিলেন?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

৯.২। আপনি কি খুব বিচলিত ছিলেন?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

৯.৩। আপনি কি এমনই হতাশাগ্রস্থ হয়ে পড়েছিলেন যে কোনকিছুই আপনাকে উদ্দীপিত করতে পারছিলো না?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

৯.৪। আপনি কি খুব স্থির ও শান্ত ছিলেন?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

৯.৫। আপনার কি প্রচুর প্রানশক্তি ছিল?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

৯.৬। আপনি কি মানসিকভাবে হতাশ ও মনমরা হয়ে পড়েছিলেন?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

৯.৭। আপনি কি বিপর্যস্থ বোধ করেছিলেন?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

৯.৮। আপনি কি আনন্দে ছিলেন?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

৯.৯। আপনি কি ক্লান্ত ছিলেন?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

১০। সমস্যাগুলো আপনাকে সামাজিক কাজকর্মে কি পরিমাণ বাধার সৃষ্টি করেছে? (যেমন- বন্ধুবান্ধব এবং আত্মীয়-স্বজনদের সাথে দেখা করতে যাওয়া)।

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

১১। নিম্নলিখিত বিবৃতিগুলো প্রত্যেকটি আপনার ক্ষেত্রে কতটুকু সত্য বা মিথ্যা-

১১.১। আমার মনে হয় অন্যান্য মানুষের চেয়ে একটু বেশি অসুস্থ হয়ে পড়ি-

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

১১.২। আমি আমার জানাশোনা মানুষগুলোর মতই সুস্থ –

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

১১.৩। আমি আমার স্বাস্থ্য খারাপ হবার আশংকা করি -

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

১১.৪। আমার স্বাস্থ্য অনেক ভালো-

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

(এই প্রশ্নগুলির উত্তর সম্পূর্ণ করার জন্য আপনাকে ধন্যবাদ)।

Date: January 02, 2021.
The Chairman
Institutional Review Board (IRB)
Bangladesh Health Professions Institute (BHPI)
CRP-Savar, Dhaka-1343, Bangladesh

Subject: Application for review and ethical approval.

Sir,

With due respect and humble submission to state that I am Naricha Akter, I am the student of 4th Professional B.Sc. in Physiotherapy at Bangladesh Health Professions Institute (BHPI). This is a 4(four) year full time course. Conducting thesis project is partial fulfillment of the requirement for the degree of B.Sc. in physiotherapy. I have to conduct a thesis entitled," **Impact of Low back pain(LBP) on quality of life among elderly** " under the supervision of Asma Islam, Assistant Professor, Department of Physiotherapy, BHPI, CRP- Savar, Dhaka-1343. The purpose of this study is to explore the quality of life of persons with LBP. I would like to assure that anything of my study will not be harmful for the participants. Informed consent will be received from all participants, data will be kept confidential.

I, therefore pray and hope that your honor would be kind enough to approve my thesis proposal and give me permission to start data collection and oblige thereby.

Sincerely,

Naricha
Naricha Akter
4th professional B.Sc. in Physiotherapy
Roll: 02, Session: 2015-16, ID: 112150273
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Recommendation from the thesis supervisor:
Requesting the Concern authority for the kind approval of the proposal and help to accomplish their activities. 02/01/2021

Attachment: Thesis proposal including process and procedure for maintaining confidentiality, Questionnaire (English & Bangla version), Informed consent.

BANGLADESH HEALTH PROFESSIONS INSTITUTE

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

Ref: Date:

CRP-BHPI/IRB/01/21/437

17th January 2021

To
Naricha Akter
4th year B.Sc. in Physiotherapy
Session: 2015-2016, Student ID: 112150273
BHPI, CRP, Savar, Dhaka- 1343, Bangladesh

Subject: Approval of the thesis proposal "**Impact of Low Back Pain (LBP) on quality of (QOL) life among elderly people**" by ethics committee.

Dear Naricha Akter,

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. The Following documents have been reviewed and approved:

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

The purpose of the study is to find out the nature of practice of Physiotherapy in Bangladesh. The study involves use of a questionnaire that may take 20 to 30 minutes to answer the questionnaire and there is no likelihood of any harm to the participants. Data collectors will receive informed consents from all participants and any data collected will be kept confidential. The members of the Ethics committee have approved the study to be conducted in the presented form at the meeting held at **8.30AM, on 1st March, 2020 at BHPI (23rd 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

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