PERCEPTION OF WOMEN'S HEALTH-RELATED PHYSIOTHERAPY AND QUALITY OF LIFE AMONG WOMEN AFTER MENOPAUSE

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"PERCEPTION OF WOMEN'S HEALTH-RELATED PHYSIOTHERAPY AND QUALITY OF LIFE AMONG WOMEN AFTER MENOPAUSE"

Submitted by Mehnaz Irin Khan, for the partial fulfillment of the requirement for the degree of Bachelor of Science in Physiotherapy (B.Sc. PT).

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Declaration

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

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List of Abbreviations

BHPI	Bangladesh Health Professions Institute
BMI	Body Mass Index
BMD	Bone Mineral Density
CRP	Center for the Rehabilitation of the Paralyzed
CVD	Cardiovascular Disease
HF	Hot Flash
HRT	Hormone Replacement Therapy
HRQOL	Health Related Quality of Life
IRB	Institutional Review Board
LBP	Low Back Pain
MENQOL	Menopause Specific Quality of Life Questionnaire
MSD	Musculoskeletal Disease
QOL	Quality of Life
SD	Standard Deviation
STRAW	Stages of Reproductive Aging Workshop
SPSS	Statistical Package for the Social Sciences
VMS	Vasomotor Symptoms
WHO	World Health Organization

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Abstract

Purpose: The study was done to determine the relationship between the menopausal symptoms and their impact on women's quality of life and to find out the perception of women's health-related physiotherapy after menopause. **Specific Objective:** To find out the relationship between socio-demographic status and symptoms of menopause-specific quality of life (MENQOL) among women after menopause. To find out their perception of women's health-related physiotherapy. **Method:** It is a mixed of type study. Cross sectional study was chosen to determine the quality of life part of the study and qualitative study was to determine the perceptional part of the study. The study population was the postmenopausal women living in different areas of Savar Upazilla. Total 50 participants were selected by using the convenience sampling method for this study from Savar within 45 to 75 years of age range. Data was collected by using mixed type of questionnaire. Data were analyzed through SPSS 23 version. Furthermore, Microsoft excel was used for the analysis of data and for the presentation of the data as well. **Result:** In this study the researcher has found that median age for post-menopausal women is 55.5 years with normal BMI range and most of the participants are housewife. Most frequent menopausal symptoms are hot flash (92%), Sweating (96%), gas pains (92%), muscle and joint pain (100%), feeling tired (94%), decrease in physical strength (98%), decrease in stamina (98%), poor memory (84%), feeling nervous (84%) etc. A significant relationship has been found between vasomotor, psychological and physical domain with socio-demographic characteristics. Perception about physiotherapy was found quite positive within postmenopausal woman. **Conclusion:** Majority of the woman faces difficulties during menopausal stages. The study was representing strong evidence that post-menopausal symptoms greatly affect woman's quality of life. Physiotherapy can provide great support to the suffering of a woman regarding menopausal symptoms as their perception is quite positive still more knowledge and publicity needed about physiotherapy among different level of the population of this country.

Key words: Menopause, Quality of Life, Perception etc

CHPATER – I: INTRODUCTION

1.1 Background

Menopause is described as generally cessation of period for 1 year or a period equivalent to a few proceeding cycles or as time of cessation of ovarian feature resulting in permanent amenorrhea (Karmakar et al., 2017). It may also be defined by a decrease in hormone production by the ovaries. Menopause may be considered to have occurred at the time of the surgery or when the hormone levels fell in those who have had surgery to remove their uterus but still have ovaries (Sievert, 2006).

Quality of life (QOL) has been defined by the WHO as the "Individual's perceptions of their role in life in the context of the cultural and value systems in which they live and in relation to their goals, expectations, standards, and concerns''. In comparison to WHO's definitions, the Wong-Baker Faces Pain Rating Scale defines quality of life as "life quality (in this case, physical pain) at a precise moment in time" (Carr and Gale, 2009).

Women's Health refers to a branch of medicine that focuses on conditions which only affect women. It includes a wide range of specialties including birth control, conditions affecting female anatomy, breast cancer, menopause, and associated conditions. In a nutshell it refers to the health of women, which differs from that of men (Women's Health, 2020).

Today, with increasing life expectancy, women spend one-third of their lifetime after menopause (Ahmed et al., 2016). During this phase woman can experience many symptoms including somatic symptoms such as hot flushes, night sweats, heart discomfort/palpitation, sleeping problems, joint/muscular discomfort, psychological symptoms such as depressive mood, irritability, anxiety, physical/ mental exhaustion or urogenital symptoms such as burning sensation in vulva/vagina, painful micturition, frequency of urine and dryness of the vagina (Heinemann et al., 2004). Non-communicable diseases such as diabetes, hypertension, osteoporosis, cervical cancer, and breast cancer are also positively correlated with menopausal period (Pallikadavath et al., 2016). It has been found that some of these symptoms are more occurring in certain

geographical regions than others (Ameh et al., 2016; Agarwal et al., 2018). Some women experience severe symptoms that greatly affect their personal and social functioning and quality of life (Ayranc et al., 2010). For some women, those symptoms are so disabling that they need medical care whereas a few may barely experience any symptom (Ashrafi et al., 2008). There are some factors associated with the frequency of menopausal symptoms that includes profession, education, type of menopause, presence of physical or emotional problems, sociodemographic characteristics, cultural, psychosocial and lifestyle factors (Yang et al., 2008; Fallahzade et al., 2010).

In the past time, menopause was not a case that should be clinically handled especially in the countries like Africa, India, and Egypt etc. Simple lifestyles of women, lack of education, low socioeconomic condition of a country, lack of awareness about the impact of menopausal symptoms etc. could be the leading reason behind this ignorance (Karmakar et al., 2017; Olarinoye et al., 2019). In low socioeconomic countries, women were only meant to play role as a homemaker and bear child, so they embraced the menopausal phase of life with all its inconveniencies (Southin, 2010; Dimkpa, 2011). Today with increasing life expectancy and increased rate of social involvement among women has made menopause of high concern (Dimkpa, 2011; Karmakar et al., 2017).

Women's Health Physiotherapy was founded from the clinical area of Obstetrics and Gynecology and is the care of women in relation to childbirth, both antenatally and postnatally. It includes the teaching of antenatal classes, the treatment of incontinence, and the care of women undergoing gynecological surgery. The scope of practice has now increased, and all health concerns of women are included for example incontinence, pelvic/ vaginal pain, prenatal and postpartum musculoskeletal pain, osteoporosis, rehabilitation following breast surgery, menopause, lymphedema, education prevention, wellness, and exercise. All females across the life span, from the young athlete, the childbearing woman, the menopausal and elderly woman receive benefit from physical therapy (Women’s Health, 2020). Physiotherapy is an important part of the healthcare system in managing QOL of women after menopause. Physiotherapists are aware of the menopausal process and the symptoms that can come along with this period. Many of the

symptoms and health concerns discussed can have a negative impact on women's health and overall quality of life (Shuster et al., 2010).

1.2 Rationale

A lot of foreign studies show that the post-menopausal symptoms greatly affect women's QOL. Those studies are providing a proper management protocol to improve their QOL after menopause. Bangladesh is a lower middle socioeconomic country. Until now, there is limited information about menopause and QOL of women. Moreover, there are fewer published studies about menopausal symptoms, QOL and their concern about health-related physiotherapy among women in Bangladesh. Therefore, women in Bangladesh are developing many vulnerable conditions with increasing rate after menopause. The study is aimed to find out if menopausal symptoms are affecting the women's QOL & the perception of taking physiotherapy as an early intervention.

1.3 Research Question

1. What are the impacts of the menopausal symptoms on women's quality of life in Bangladesh?
2. What is the opinion of post-menopausal women about women's health-related physiotherapy?

Operational Questions

Menopausal symptoms

Menopause is described as generally cessation of period for 1 year or a period equivalent to a few proceeding cycles or as time of cessation of ovarian feature resulting in permanent amenorrhea (Karmakar et al., 2017). During this phase woman experience many symptoms including vasomotor, psychological, physical and sexual (Heinemann et al., 2004).

Quality of life

Quality of life (QOL) has been defined by the WHO as the "Individual's perceptions of their role in life in the context of the cultural and value systems in which they live and in

relation to their goals, expectations, standards, and concerns’’. In comparison to WHO's definitions, the Wong-Baker Faces Pain Rating Scale defines quality of life as “life quality (in this case, physical pain) at a precise moment in time” (Carr and Gale, 2009).

Perception

Perception has sometimes been defined as "the consciousness of particular material things present to sense" (Surprenant et al., 2007).

Women’s health-related physiotherapy

Women’s Health refers to a branch of medicine that focuses on conditions which only affect women. It includes a wide range of specialties including birth control, conditions affecting female anatomy, breast cancer, menopause, and associated conditions. In a nutshell it refers to the health of women, which differs from that of men. Women's Health Physiotherapy was founded from the clinical area of Obstetrics and Gynecology and is the care of women in relation to childbirth, both antenatally and postnatally (Women’s Health, 2020).

1.4 Study objectives

1.4.1 General objective:

- To find out the menopausal symptoms and their impact on woman’s quality of life.

1.4.2 Specific objectives:

- To find out the relationship between socio-demographic status and physical symptoms of menopause-specific quality of life (MENQOL) among women after menopause.
- To find out their perception of women's health-related physiotherapy

CHAPTER-II: LITERATURE REVIEW

In life span development of a woman, menopausal phase signifies the normal aging process that refers from the reproductive to the non-reproductive state of a woman. The transition from the reproductive to the non-reproductive stage occurs due to reduction in the female hormonal production by the ovaries and is normally not sudden or abrupt (Whelan et al., 2005). Subjecting women into a complex bio-physiological and psychosocial change, the menopausal process may extend for a longer period before and after the physiological cessation of menstruation and last many years after that (Doubova et al., 2011).

In the Western world, the most typical age range for menopause from natural causes is between the ages of 40 to 61 (Chen et al., 2018) and for the last period the average age is 51 years (Dratva et al., 2009). However, average age for menopause is different due to variation of geographical region. In North America (Canada, the United States, Mexico, the nations of Central America, Greenland, Bermuda, St. Pierre and Miquelon, and the Caribbean island nations), the mean age of menopause was 51.4 years (Nichols et al., 2006). In Latin America (Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Honduras, Mexico, Panama, Paraguay, Peru), the mean age of menopause was 48.6 years, ranging from 43.8 to 53 years (Schoenaker et al., 2014). In European country, the mean age of menopause is 50.9 to 55 years with the lowest age of menopause in the Southern European region and the highest in the Northern European region. In Asia (Indonesia, Korea, Malaysia, the Philippines, Singapore, and Taiwan), the median age of menopause was 51.1 years (Langer et al., 2015). In the neighbor country India, the average age of menopause is around 48 years, but it strikes in women as young as 30–35 years (Karmakar et al., 2017).

There are two types of menopause. Physiological menopause is a natural progressive decline of the menstrual cycle due to decreased ovarian function with an average age of 40-51 years. Pathological menopause is identified with three different phases including premature menopause, artificial or surgical menopause and delayed menopause.

Premature menopause is a phase in which the cessation of ovarian function occurs before the age of 40 (Menopause, 2013), artificial or surgical menopause is defined as the permanent cessation of ovarian function due to surgical intervention, or medical treatment like chemotherapy or pelvic radiation therapy and when the cessation of ovarian function occurs after the age of 51 it is considered as delayed menopause (Medical Causes of Menopause, 2018).

Physiological menopause has several stages. Different studies/authors described the stages of menopause from different aspects. According to the Stages of Reproductive Aging Workshop (STRAW) and Harlow et al., (2012) menopause has 5 stages: 1. Late reproductive years- changes in menstrual cycle or a shorter menstrual cycle may be noticed. 2. Early menopausal transition- marked by increased variability in menstrual cycle length. 3. Late menopausal transition- marked by the occurrence of amenorrhea of 60 days or increased variability in cycle length and extreme fluctuations in hormonal levels. 4. Early post-menopause period- corresponds to the end of "peri-menopause," a term that means the time around menopause. 5. Late post-menopause period- symptoms of vaginal dryness and urogenital atrophy become increasingly prevalent. According to Women's Health Research Institute menopause has 4 stages: 1. Perimenopause phase is defined as the 3-5 years of period before menopause when the estrogen and hormone level begins to drop. A woman typically enters the perimenopause phase in their late 40's and can begin to experience irregular menstrual cycles and common menstrual symptoms. 2. Early menopause can be marked as certain events other than natural aging that results in an earlier menopause such as Hysterectomy (uterus removed), Oophorectomy (ovaries removed), Premature Ovarian Failure (POF- inactive ovaries due to genetics, surgery, ovarian dysfunction, insufficient follicles, radiation therapy or chemotherapy etc.). 3. Menopause is a phase where most women are about 51 to 52 years of age on average when they enter. One to three years of age is determined as an average time for the transition from perimenopause through menopause to post-menopause. However, every woman is unique and experiences the menopause differently. 4. Post-menopause starts after one year has passed since the last menstrual cycle. Other symptoms that might have started in perimenopause can continue through menopause and post-menopause phase (Stages of Menopause, 2013).

Menopause is caused by depletion of the primordial follicles in the ovaries. Females have maximum number of oocytes by 20 weeks gestation. The follicular pool decreases gradually throughout life until the age of 52, when the pool runs out. The follicular depletion causes decreased recruited follicles that cause decreased ovulation which leads to lengthening of cycles. Again, decreased ovulation causes decreased amount of corpus luteum thus leads to decreased progesterone that causes lighter bleeds. Further the decreased recruited follicles cause decreased in granulosa cells which causes decreased of inhibin B that provides a negative feedback on pituitary gland and hypothalamus which leads to increase in follicle stimulating hormone (FSH). FSH causes earlier follicular recruitment which leads to shorter follicular phase of menstrual cycle ultimately leads to shorter cycle gradually. Early in the menopausal transition, menstrual cycles become relatively shorter and more irregular that leads to accelerated follicular loss in the 10 years prior to menopause. The follicular pool depletes eventually, thus causes anovulatory cycles with only occasional ovulation (Wong, 2009).

During menopausal transition, due to excessive fluctuation in the hormone levels women may experience many symptoms and conditions (Bromberger et al., 2010). For some women, the symptoms are too severe that profoundly affect their personal and social functioning, and QOL (Karmakar et al., 2017). More than 80% of the women experience physical or psychological symptoms in the years when they enter menopausal stage (Whelan et al., 2005). Epidemiological studies reported a positive linear relationship between menopausal changes and Quality of Life(QOL) and also a higher prevalence (40%–60%) of physical, psychological, vasomotor, and sexual disorders among menopausal women (Bairy et al, 2009; Borkar et al., 2013). Poor compliance to recommended lifestyle modifications and limited knowledge could be the leading cause that hampers overall health-related QOL (Aaron et al., 2002). Menopause is also related with loss of bone tissues that leads to osteoporosis and also increases the risk of heart disease due to age-related increases in weight, blood pressure, and cholesterol levels (Karmakar et al., 2017).

More than 80% of women will experience vasomotor symptoms (VMS), hot flashes or flushes (HFs) and night sweats during the menopausal transition. These symptoms can

start to show in the peri-menopausal period and can last throughout the postmenopausal period. A transient warming sensation is experienced as a symptom of mild HFs, while extreme symptoms may include unexpected and intense heat spreading over the upper body and face, reddening of the skin or flushing, severe perspiration, chills and shivering etc. Other symptoms related to HFs may include pressure in the head or chest, anxiety, nausea, and changes in heart rate and breathing. The episodes of hot flushes generally last for 1–5min. Deecher and Dorries conducted a systemic review in 2007 which shows that a small percentage of women report flushes lasting up to 15 min. Night sweats are type of HF that causes heavy perspiration during sleep and motive sleep disruption - these climacteric vasomotor symptoms occur due to alteration of autonomic hemodynamic regulation like diverse cardiovascular reflexes and dysregulation of cutaneous blood flow (Subhashri et al., 2019). Changing estrogen levels also play an important role in these VMS (Deecher and Dorries, 2007). Sympathovagal Imbalance (SVI) is also commonly observed along with these VMS in postmenopausal women. SVI is described as increase in sympathetic activity and decrease in parasympathetic activity. In natural menopause, both sympathetic and parasympathetic reactivity is decreased but in surgical menopause sympathetic reactivity is increased and vagal tone is decreased (Subhashri et al., 2019). All these symptoms may cause an increase of physical (Dugan et al. 2006) and psychological (mood disturbance) vulnerability (Joffe et al. 2002) resulting in reduced quality of life and diminished work production (Utian, 2005).

A prospective study found that women are vulnerable to growing a range of mental health problems, such as depression, anxiety, memory, and sleep disorders, during menopausal transition (Campbell et al., 2015). Other mental health issues during menopause may include low self-confidence, impaired concentration and memory, mood swings etc (Griffiths et al., 2013). Depressive symptoms tend to be the most prominent of all mental health issues at this period of life (Campbell et al., 2015). According to a meta-analysis, depressive symptoms are more likely to develop during peri- menopausal stage rather than pre- menopausal stage (de Kruif et al., 2016). Presence of these depressive symptoms may leads to worse QOL, social maladaptation, increased disability & decrease job productivity (Wariso et al., 2017).

High numbers of midlife women are affected with sleep problems (i.e. Insomnia) but it remains a question whether the onset is associated with the hormone fluctuations of menopause or not (Brown et al., 2009). Insomnia exists when sleep is insufficient in amount or quality, consistent with the judgment of an individual (Owens and Adolescent Sleep Working Group, 2014). In surveys of women with 40–60 years of age, it was assessed as one of the several symptoms associated with menopausal transition (Brown et al., 2009) and according to the reports about their sleep patterns it was perceived by an increasing number of women during menopause. According to the proportional studies within menopausal categories, perimenopausal and postmenopausal women report poor sleep than do premenopausal women (Eichling and Sahni, 2005). Many studies concerning menopause relating sleep disturbances is the tendency to attribute any menopausal symptom to the hypothalamic- pituitary-ovarian (HPO) hormone changes occurring during female reproductive age. Other studies showed that sleep disturbances are particularly evident with hot flash/sweat activity, hormonal changes, general aging, psychological distress, or some combination of factors that are difficult to discern (Brown et al., 2009).

Brain is one of the target organs of estrogen. Due to decreased estrogen level perimenopausal women showed atrophy of different regions of brain that are involved in memory like hippocampus and parietal lobe. Estrogen influence neuronal growth and its plasticity, in addition, neurotransmitter systems including acetylcholine, serotonin, noradrenalin and glutamate, hippocampal neurogenesis and long-term potentiation are responsible for episodic memories. In the process of memory cholinergic neurons releasing acetylcholine has a particularly important role. According to functional brain imaging, estrogen modulates neural activity during performance of cognitive tasks. Thus, regarding hormonal change during menopausal transition most of the women complain problem with memory (Subhashri et al., 2019).

Musculoskeletal disorders (MSDs) are common in older adults especially in menopausal women. Most common MSDs that are taken into considerations include arthralgia, rheumatoid arthritis, osteoarthritis, osteoporosis, sciatic back pain (general or due to spinal disk herniation or spinal stenosis), sarcopenia and other chronic back pain. Several

less common MSDs are Paget's disease, or undefined musculoskeletal pain etc. (Afrin et al., 2018). Frequency of this disorders increases with age and in some women. It appears to be associated with the onset of menopause (Watt, 2018). For example, arthralgia and muscle pain of any origin is often associated with fatigue, mood change, sleep disturbance, raised body mass index (BMI), anxiety or stress which are also frequently associated with menopause (Afrin et al., 2018). Bone mineral density (BMD) that decreases with age and showing a steeper decline at menopause leads to osteoporosis in women during menopausal transition. Associated factors that cause significant increase in the prevalence of osteoporosis are changes in lifestyle factors, loss of ovarian function and changes in the estrogen level etc. Osteoarthritis is characterized by the breakdown of the joint cartilage for which changes in sex hormones are assumed to play an important role (Van Dijk et al., 2015). Again, decline in estrogen level during menopause results in increased bone turnover and elevate the risk of fractures. Moreover, change in body composition including increased fat mass and decreased lean mass, results in an increased risk of Vitamin-D deficiency that aggravates discomfort, also the chance of several diseases during menopause (Lerchbaum, 2014). Menopausal women also showed a higher prevalence of disc degeneration, spondylolisthesis, and disc space narrowing and facet joint arthritis. Lower estrogen level during menopause accelerates disc degeneration which increases the prevalence of low back pain (LBP) in women. The aggravating factors for LBP include heightened pain sensitivity among women, menstrual cycle fluctuations, osteoporosis related spine fracture, biologic response, genetics and stress to pregnancy and childbearing, and perimenopausal abdominal weight gain (Wang, 2017). Thus, these musculoskeletal disorders impaired quality of life, mood disturbances and increased the risk of metabolic and cardiovascular diseases in women (Lerchbaum, 2014).

Through the process of aging, gradual loss of physical capacity, mobility, balance, and endurance, eventually results in loss of living an independent life. It has been said that loss of muscle mass and strength occur at an earlier age in women than man, around the time of menopause. Decreased estrogen level during menopause leads to the loss of Bone mineral density (BMD), muscle mass and strength, the redistribution of subcutaneous fat

to the visceral area, decline in physiological functions, the increased risk of cardiovascular disease and the decreased quality of life (Rizzoli et al., 2014)

During the lifetime of women, up to 50% women complain about urinary tract infection at least once and 50% complains of urinary incontinence (Mody and Juthani-Mehta, 2014). Atrophy of the mucous membrane of the bladder and urethra causes urge incontinence. Degenerative changes in the bladder suspension causes stress incontinence and genital prolapsed. In menopausal women, the change from the reproductive estrogen levels of pre-menopause to the lower estrogen levels of post-menopause as occurs across the menopausal transition is often taken into consideration as the attributed reason behind incontinence (Cody et al., 2012). Other contributing causes of continence includes increased BMI, diabetes etc. (Mody and Juthani-Mehta, 2014).

The frequency of menopausal symptoms differs from country to country. For example, in Latin America hot flushes (68.9%) followed by sleep disturbances (68.4%) are the most reported symptoms. In Australia, hot flushes followed by night sweats are the most reported symptoms. In Nigeria, most commonly reported symptoms are joint and muscular discomfort. In Egypt, most common symptoms are fatigue followed by headache. The countries in East and South-east Asia, joint and muscle pain are complained as the most frequent symptoms (Kamal and Seedhom, 2017).

Induced menopause logically occurs at an earlier age than natural menopause, usually as the result of hysterectomy with or without bilateral oophorectomy. Hysterectomies are quite common now-a-days. According to a study, approximately 600000 hysterectomies are performed annually in the US. The most common causes of hysterectomies include uterine leiomyoma, endometriosis, uterine prolapsed, fibroids, menstrual pain, excessive menstrual bleeding etc. The age range for hysterectomy according to a study in US is 40-54 years (Palacios et al., 2010). Pre-mature loss of ovarian function leads to different health issues. For example, hysterectomy with or without bilateral oophorectomy at earlier ages are associated with an elevated risk of cardiovascular mortality (Sievert et al., 2013). In an elderly postmenopausal women cardiovascular disease (CVD) has been shown to be associated with cognitive decline. Heart rate variability also declines immediately after menopause (Subhashri et al., 2019). Other health risks related to

earlier menopause include an accelerated rise in cholesterol levels, blood pressure, and insulin resistance, primarily with increasing body weight total and low density lipoprotein (LDL) cholesterol levels were noted to increase significantly within 3 years of menopause with small decreases noted in high-density lipoprotein cholesterol (Ingelsson et al., 2011). Other factors linked to earlier age of menopause include cigarette smoking, lower education, unemployment, single marital status, no prior use of oral contraceptives, severe caloric restriction during early childhood, low weight gain during early childhood, socioeconomic disadvantage, infectious disease burden, null parity, low BMI at midlife etc. (Palacios et al., 2010; Sievert et al., 2013).

It is clear that menopausal symptoms have great impact on women's life. Postmenopausal women face various distress and disturbances in their lives, leading to a decrease in the quality of life (Whelan et al., 2005). Women in developed or developing countries seem to be very ignorant about the changes taking place in their reproductive system after menopause. The religion and culture of our society plays an important role in inhibiting to express these changes (Paulose and Kamath, 2018). After all the circumstances, menopause has gathered much concern now-a-days as the proportion of the menopausal women has significantly increased in the population due to increase in life expectancy (Unni, 2010). In developed countries, the modern sociocultural factors altered women's attitude and experience of menopausal symptoms. In societies where menopause is viewed as positive rather than negative event menopausal symptoms are found to be less common (Karmakar et al., 2017). However, there is still a large gap in the knowledge of women in developing countries especially in rural and urban areas. Hence the need to have counseling and training program by the professionals is growing to improve women's health, reducing problems, and enhancing QOL in menopause period (Paulose and Kamath, 2018).

The current biomedical health-care version in developing countries focuses especially on healing aspect, giving importance to treat the signs and symptoms to limit the effect of these at the psychosocial transition within the menopausal period. Health is a multidimensional concept relating with physical, emotional, and social functioning. Therefore, this biomedical perspective model has less influence on health-related QOL.

Health-related QOL focuses mainly on the QOL consequences of health status and the holistic well-being. The positive aspects of a person's life such as positive emotions and life satisfaction are the measurement of holistic well-being. Postmenopausal women in general compromise the health seeking behavior and silently suffer with symptoms though there are various treatment modalities are available for menopausal symptoms which eventually affect their QOL. Health personnel also overlook these multiple paradigmatic patterns of symptoms associated with menopausal stages and the impact of these symptomatology's (Ganapathy and Al Furaikh, 2018).

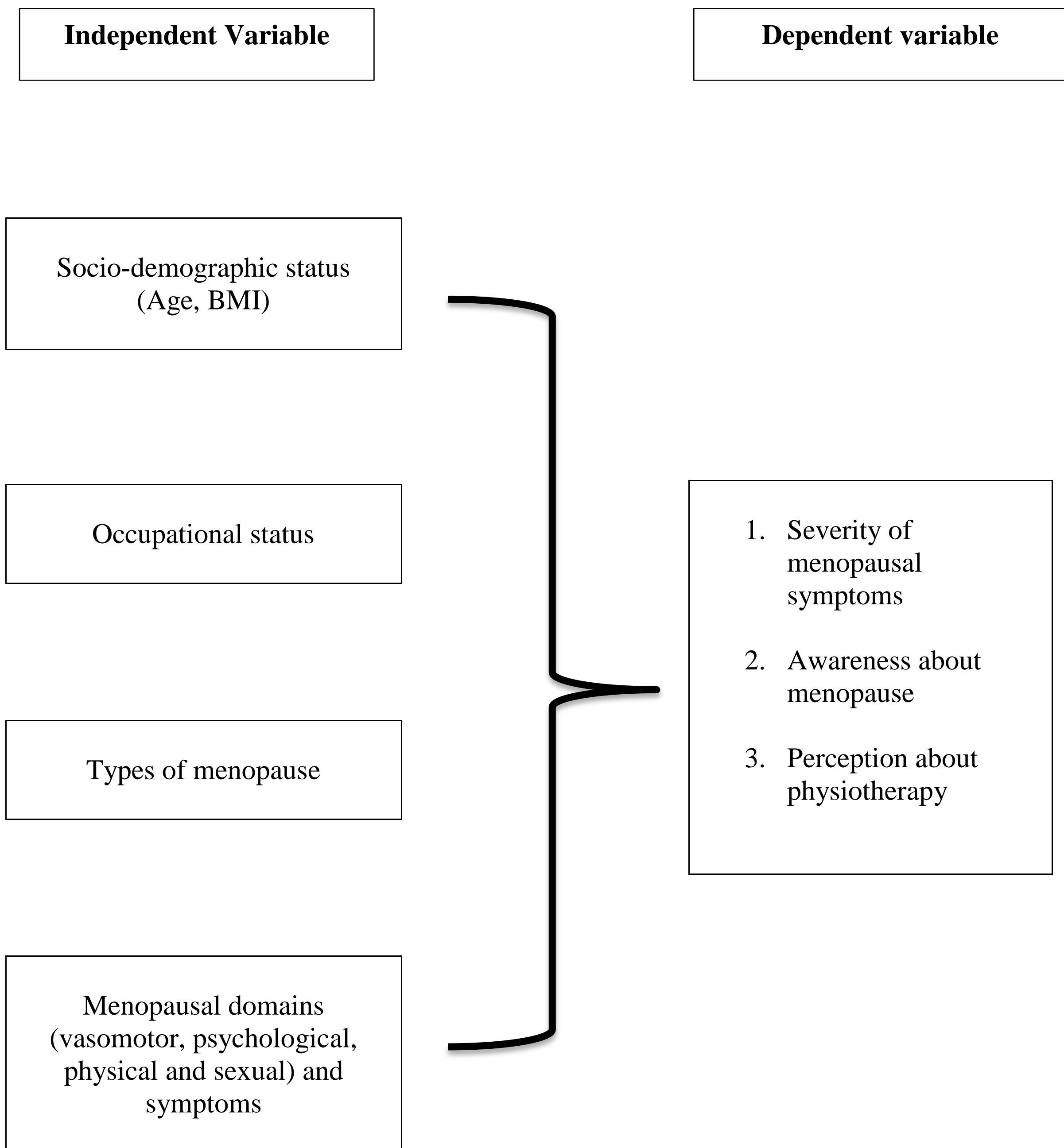
Health professionals have a great role in improving the QOL of a woman after menopause. They can educate women to have modification in the lifestyle practices such as having well balanced diet, regular exercises, decreased fat and salt intake, avoidance of self-medication, fruits and vegetable consumption, blood pressure control, and increased daily water consumption, practicing relaxation through yoga, relaxation techniques and meditation. This will help them to be better equipped to face the changes and minimize the risk of this potentially disruptive period through identifying and adapting to various changes taking place in the body (Paulose and Kamath, 2018).

The menopause-specific quality-of-life (MENQOL) questionnaire was developed by Hilditch et al., which has been translated into about 15 languages. It consists of 29 items in four dimension; vasomotor (3 items, 1-3), psychosocial (7 items, 4-10), physical (16 items, 11-26) and sexual (3 items, 27-29). The participants were asked to note their experience of the problem; If "no" she marked no and went to the next item, if "yes" she indicates how bothered she was by the item on a 7-point Likert scale ranging from 0: Not at all bothered to 6: Extremely bothered. For analyses, the item scores were converted to the score ranging from 1 to 8 in the following manner: No symptom =1, have symptom, but not bothered =2 through to extremely bothered =8. Once each item has been manipulated into a 1 – 8 score, the scoring is performed by adding up the obtained symptom marks. The scores for each of the domains are calculated as the mean of corresponding item values. The total score represents the mean of the four domain scores (Hilditch et al., 1996; Lewis et al., 2005).

CHAPTER-III: METHODOLOGY

This chapter introduces the theoretical frameworks and analytical tools used to solve research problems. It discusses data requirements and data collection methods used and also aim to test the research design according to the nature of the research purpose.

3.1. Conceptual framework



3.2 Study design

The aim of this study was to find out the quality of life among women after menopause and their perception about women's health-related physiotherapy. For this reason, a mixed type study was chosen. Cross sectional study was chosen to determine the quality of life part of the study and qualitative study was to determine the perception about women's health related physiotherapy part of the study. In case of cross sectional study the most important advantage was it needs less time and it is also cheap as there was no follow up, fewer resources required running the study (Mann, 2003) and for qualitative study there are multiple options available to discourse analysis, biographies, case studies, and various other theories (Malina, 2011).

The defining characteristics of a cross-sectional study are that it can evaluate different population groups at a single point in time and the findings are drawn from whatever fits into the frame. It allows researchers to compare many different variables at the same time, for example, we can look at age, gender, income and educational status in relation to walking and cholesterol levels, with little or no additional cost (Vu, 2015).

On other hand Qualitative study method can be more targeted and concentrated. Sampling specific groups and key points in a study to gather meaningful data can both speed the process of data capture and keep the costs of data-gathering down (Rivaz, 2019).

3.3 Study Site

The study was conducted in different areas as in Bank Colony, Talbag, Bazar Road, Shahibag, Chapain etc of Savar Upazilla.

3.4 Study population

A population refers to the entire group of people or items that meet the criteria set by the researcher. It conforms to some designated set of specifications that provide clear guidance as to which elements are to be included in the population and which are to be excluded (Kenneth, 2005).

In order to prepare a suitable description of a population it is essential to distinguish between the population for which the results are ideally required, the desired target population, and the population which is actually studied, the defined target population. An ideal situation, in which the researcher had complete control over the research environment, would lead to both of these populations containing the same elements.

In this study the population is the postmenopausal women living in Bank Colony, Talbag, Bazar Road, Shahibag, Chapain of Savar Upazilla. It can be defined as a set of respondents (people) selected from a larger population for the purpose of a survey.

3.5 Inclusion Criteria

1. Menopausal women who are willing to participate.
2. Age range 40-75 years.

3.6 Exclusion Criteria

1. Patient with cognitive problem.
2. Any pathological conditions like- infectious disease, recent trauma, vertebral malignancy, cancer etc.

3.7 Sampling Procedure

The study was conducted by using the convenience sampling methods because it was the easiest, cheapest and quicker method of sample selection (Bodnar et al., 2013). Through the convenience sampling procedure, it will be easy to get those subjects according to the criteria concerned with the study purpose.

3.8 Sample Size

Sample is a group of subjects would be selected from population, who are used in a piece of research (Hicks, 2009). A sample is a smaller group taken from the population. Sometimes the sample size may be big and sometimes it may be small, depending on the population and the characteristics of the study (Hopkins, 2017).

Prevalence formula was adopted for the sample size estimation,

$$P = \frac{\boldsymbol{Number\ of\ people\ in\ sample\ with\ characteristics}}{\boldsymbol{Total\ number\ of\ people\ in\ sample}} * \mathbf{100}\%$$

$$= \frac{\mathbf{300}}{\mathbf{1000}} * \mathbf{100}\%$$

$$= \mathbf{30}\%$$ (Savar Upazila Population, 2015)

Sample size, $\boldsymbol{n} = \boldsymbol{4pq/D2}.$

$$\boldsymbol{n} = \mathbf{4} * \mathbf{30} * \frac{\mathbf{70}}{\mathbf{6^2}}$$

=233.33

=234

Where P is the prevalence taken as 30, Q is (100-p) and D is 20% of P value.

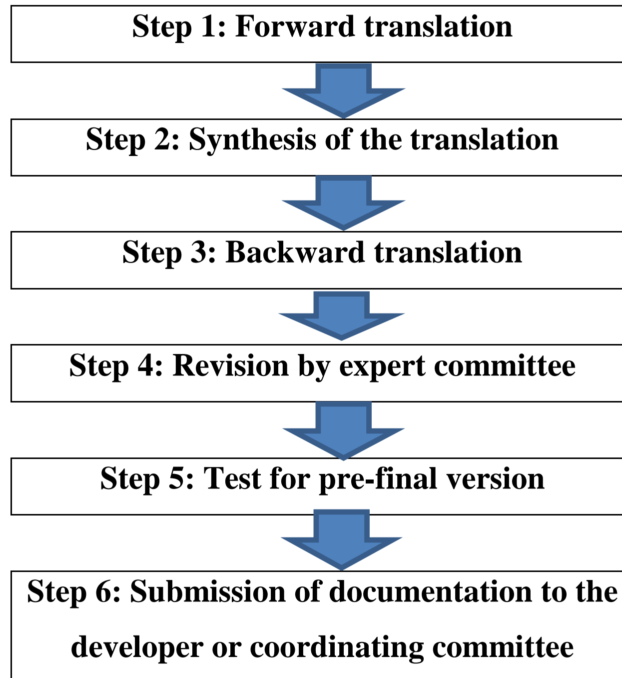
As the study was performed as a part of fourth professional academic research project and there were some limitations because of covid –19 pandemic, the sample size will be **50** instead of **234.**

3.9 Data collection method and tools

In this study data were collected by using semi - structured questionnaire. There are three parts in the questionnaire – i) Personal Information ii) Menopause specific quality of life questionnaire (MENQOL)- the scoring is performed by adding up the obtained symptom marks. The scores for each of the domains are calculated as the mean of corresponding item values. The total score represents the mean of the four domain scores. The questionnaire was developed by Hilditch et al, (1996). iii) Perceptional and menstrual history related questions- it is the qualitative part of the questionnaire. Pattern thematic analysis was used as the primary basis for organizing and reporting the study findings (Racino and O'Connor, 1994).

A pilot study would substantial for linguistic validation of the questionnaire and developing the questionnaire.

Linguistic validation framework is given below-



(Varni, 2002)

The forward translation was done by one undergraduate student of physiotherapy and one senior research physiotherapist with 2 years of experience. Both translators of forward translation compared their translation for synthesis and the researcher herself formed the third version of the translation. Then another undergraduate student of physiotherapy and one student of class 9 who is not related to this profession and both were also unaware of the real version of the questionnaire were invited to do the backward translation. After completing the backward translation a new harmonized translation was created by the expert committee that includes the supervisor of the research who is a lecturer of Department of Rehabilitation Science, both forward and backward translators, and the researcher. The pre-final Bengali version was tested through pilot study with 10 participants to ensure that the equivalence of adapted version remains stable in applied situation. For appraisal of the adaptation process, all the documents were submitted to the expert committee at the Centre for the Rehabilitation of the Paralysed (CRP) in order to verify the adaptation process.

The linguistic validation process guideline was followed according to a research by Nipa et al., (2019) which was done for the linguistic validation of Incontinence Severity Index (ISI) questionnaire in Bengali language. After linguistic validation the data collection

procedure was followed. Firstly, introduced with each other and described the project study as well its purpose and also provided a consent form to the participant and explained it to build a trustful relationship. After obtaining consent by sign, asked some pre-determine question to the participant and gave them time to understand the questions fully so that they could answer them accurately. During the interview, the researcher wrote down field notes and observed the facial expression to collect accurate data from the participants because in grounded theory of qualitative research observation and interviewing both were commonly used for data collection (Hicks, 2009). During the interview the researcher used pen, paper, written questionnaire, file and consent paper.

3.10 Data analysis

Data was analyzed with the Statistical Package for Social Sciences (SPSS) Version 23 software. Data resolve numerically coded and captured in Microsoft Excel, using an SPSS 23 version software program. Microsoft Office Excel 2016 used to decorate the table, bar graph and pie charts. In the result section all the value was formulated by descriptive statistics. SPSS is a comprehensive and flexible statistical analysis and data management solution.

3.11 Inform consent

At first, the aims and objectives of this study was informed to the subjects in a descriptive verbal way. The consent form was delivered to the subject and it was ensured that they understood it properly. The subjects had the rights to withdraw themselves from the research whenever they want to. It was assured to the participants that their name or address would not be used. It was also being assured to the participants that their information might be shared in any normal presentation or seminar or writing but they would not be identified. The participants were informed by the researcher that the result would not be harmful for them. Ensuring the confidentiality of participant’s information, no information has been shared without the research supervisor. At any time the researcher was available to answer any additional questions in regard to the study.

3.12 Ethical consideration

The proposal of the study was approved by IRB (Institutional Review Board) reference: CRP-BHPI/IRB/08/2020/402 of BHPI (Bangladesh Health Professions Institute). The study had done by following the guide line given by local ethical review committee and also followed WHO and BMRC (Bangladesh Medical and Research Council) guidelines. Researcher maintained the confidentiality and all the interviews were taken in a confidential to maximize the participant's comfort and feelings of security.

CHAPTER –IV: RESULT

4.1 Socio demographic characteristic of post-menopausal women

4.1.1 Age of post-menopausal women

Among 50 participants, 48% is about the age of 57- Above years; where highest age range is 74 and lowest is 60 and most common age are 65. 28% of the participants are about the age of 45-50 years; where highest age is 50 and lowest is 45 and most common age are 45 years. Lastly least percentage shows that 24% is about the age of 51-56 years where most common age is around 55 years (Figure-1).

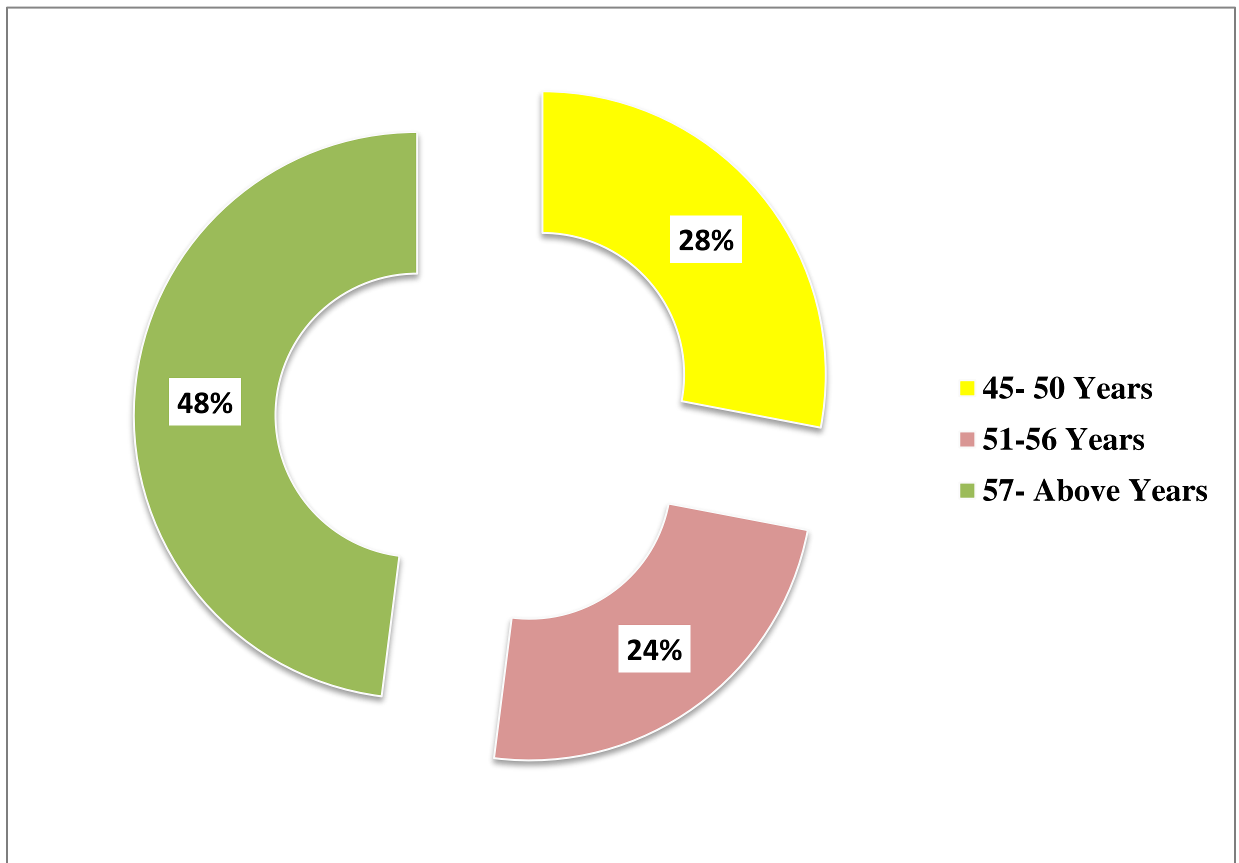


Figure-1: Age of post-menopausal women

4.1.2 BMI of post-menopausal women

According to BMI scale considering adults, 2% of the participants are underweight (<18.5) which is the least percentage and 56% of the participants are of normal weight (18.5- 24.9) which is the highest percentage. Other percentage shows that 34% of the participants are overweight (25.0- 29.9) and 8% of the participants are obese (>30.0) among 50 participants (Figure-2).

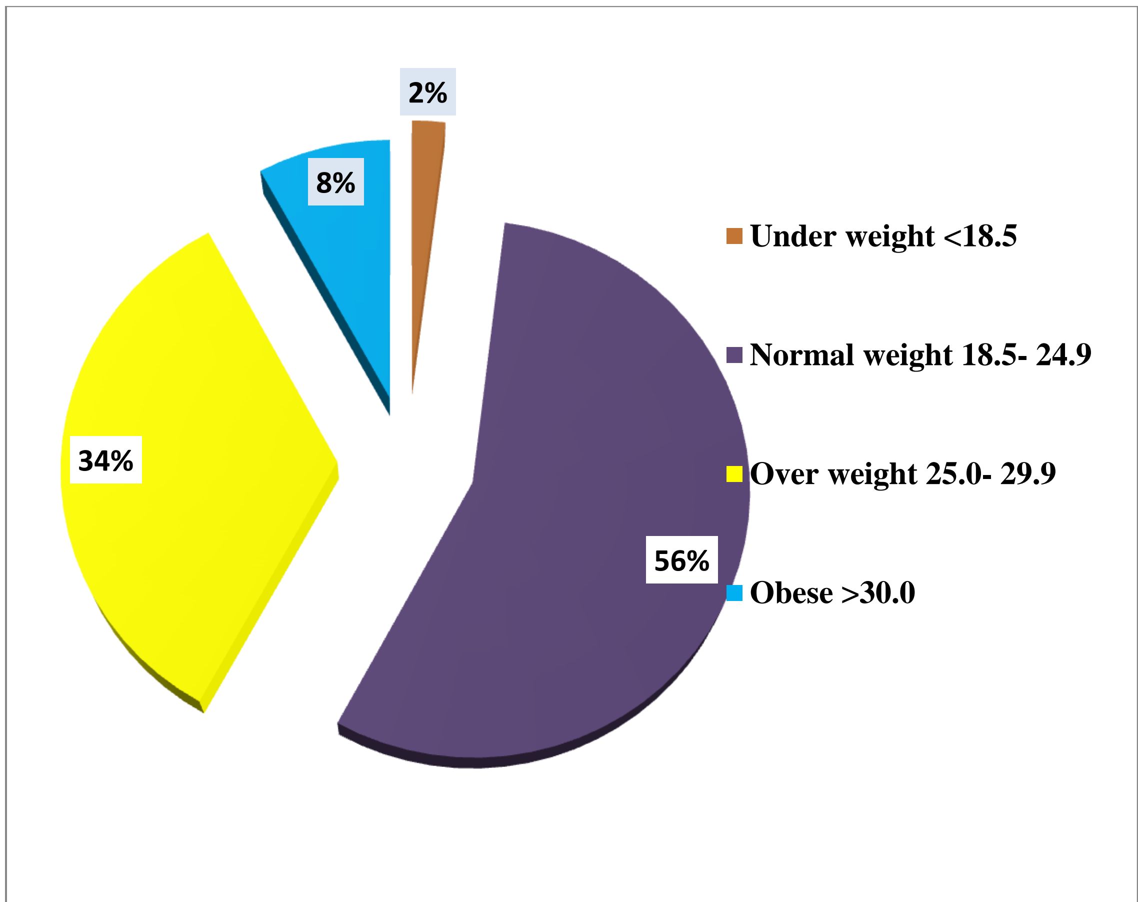


Figure-2: BMI of post-menopausal women

4.1.3 Professional status of post-menopausal women

As per the study criteria, the participants are all females. The frequency of employment shows, the highest percentage among 50 participants are housewives which is 76% in number. The second highest percentage of 10% shows the participants who were employed with different professions before but now they are retired. Other percentage shows that 6% of the participants are teachers, 2% of the participants are bankers, 2% of the participants are in business and 4% of the participants are related to different other jobs (Figure-3).

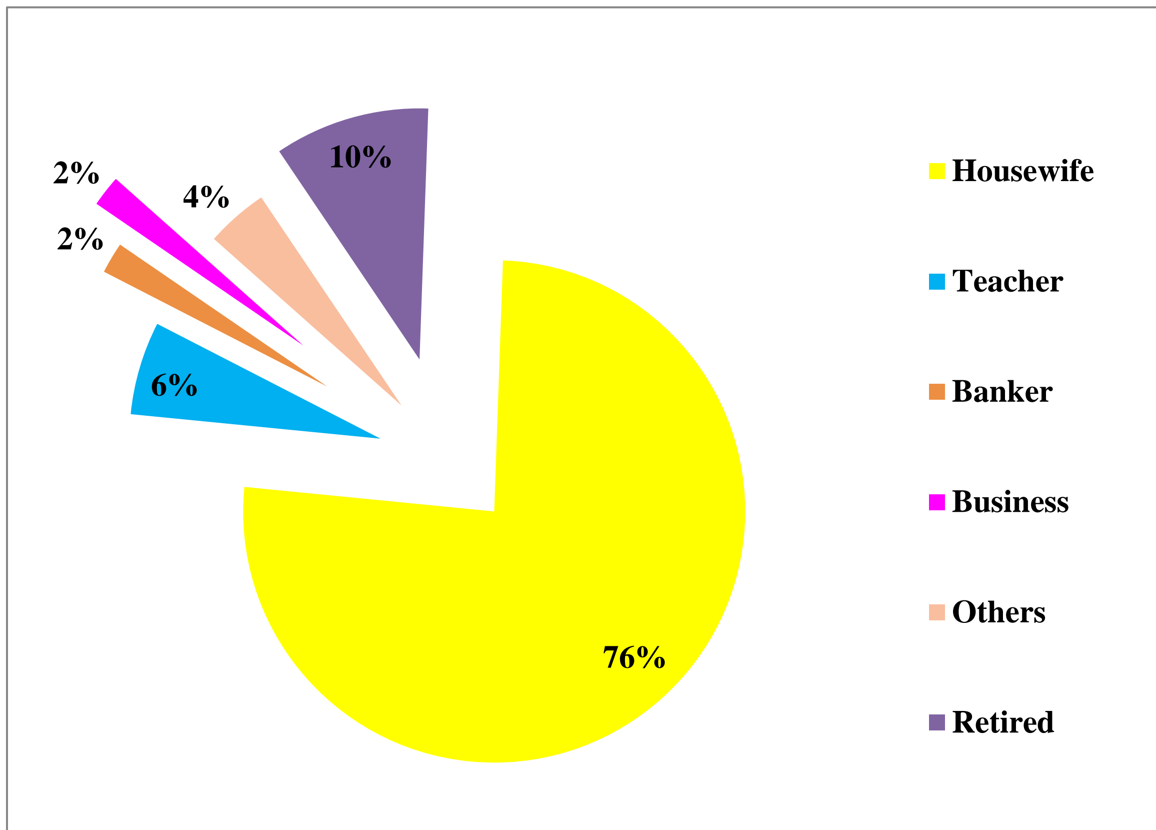


Figure-3: Professional status of post-menopausal women

4.1.4 Educational status of post-menopausal women

Among 50 participants the frequency of literacy shows, least percentage of the participants, only 3% are illiterate. The approximate percentage of literacy is 10% of the participants completed primary education, 11% of the participants completed secondary education and 10% of the participants completed higher secondary education which is the basic education level according to Bangladesh. Other percentages shows the higher level of literacy rather than basic level where 7% of the participants completed Honors, 8% of the participants completed Masters and only 1% of the participants completed further higher education like PhD (Figure-4).

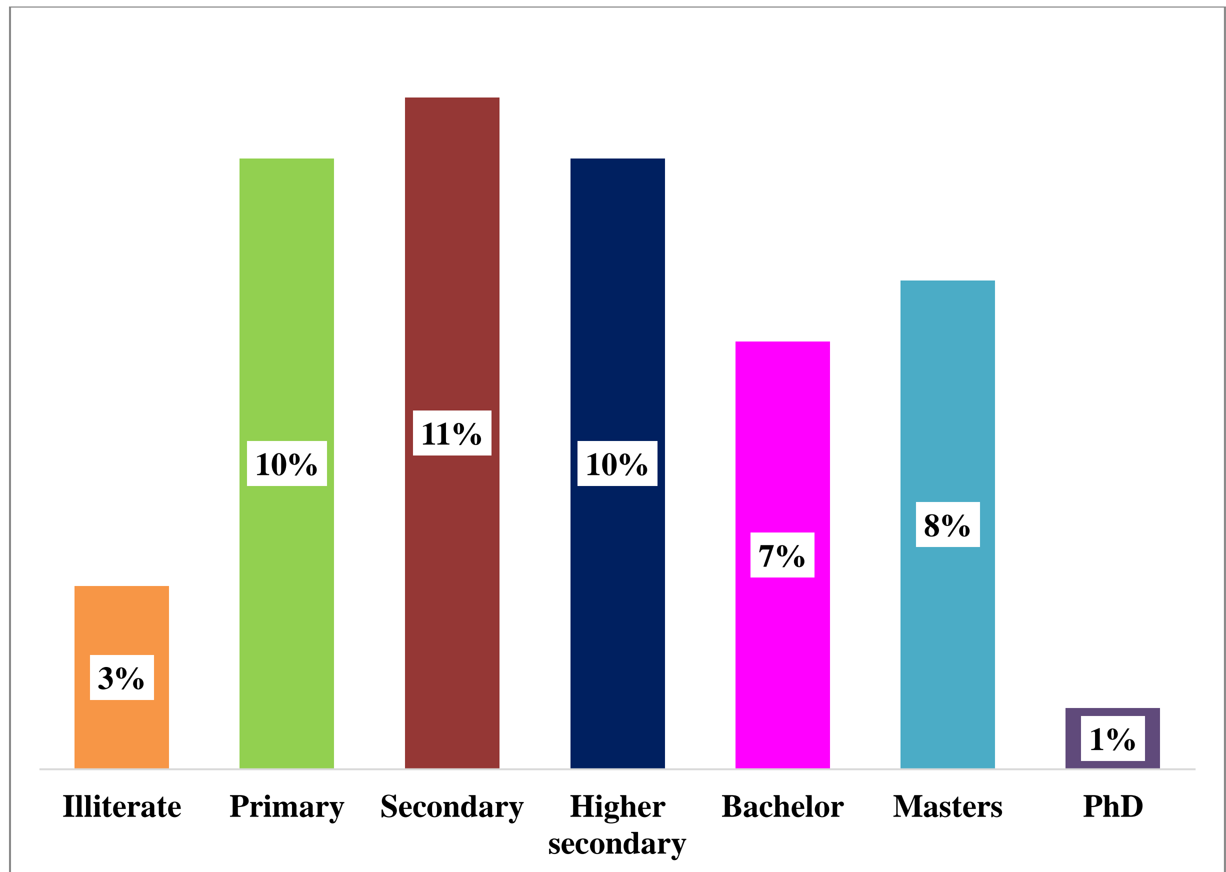


Figure-4: Educational status of post-menopausal women

Distribution of the participants according to Socio-Demographic characteristics (n=50).

Table–1 Distribution of the participants according to Socio-Demographic characteristics

Characteristics		n	Frequency (%)	Cumulative Frequency (%)
Age				
45-50 years		14	28	28
51-56 years		12	24	52
57-above years		24	48	100
BMI				
Underweight	<18.5	1	2	2
Normal weight	18.5- 24.9	28	56	58
Overweight	25.0- 29.9	17	34	92
Obese	>30.0	4	8	100
Educational status				
Illiterate		3	6	6
Primary		10	20	26
Secondary		11	22	48
Higher secondary		10	20	68
BSc		7	14	82
MSc		8	16	98
PhD		1	2	100
Occupation				
Housewife		38	76	76
Teacher		3	6	82
Banker		1	2	84
Businessman		1	2	86
Others		2	4	90
Retired		5	10	100

**n- Number of individual*

In the present study, 48% of the women are to the age group of 57-above years which is the maximum, 24% of the women are to the age group of 51-56 years which is the minimum. Majority (56%) of the participants is of normal weight and only 2% are underweight. Twenty-two percent of the participants completed up to secondary education and very less (2%) percentage of participants completed higher studies like PhD. A majority of the women are housewives and a minority of the women is working outside of the home in different sectors (Table-1).

4.2 The Menopause-specific Quality of Life (MENQOL) Questionnaire

The MENQOL is a self-administered specific instrument covering 29 climacteric symptoms or complaints. The 29 symptoms are divided into four domains- Vasomotor (3 items), Psychosocial (7 items), Physical (16 items) and Sexual (3 items).

Distribution of the Vasomotor symptoms according to Frequency and Mean (SD) value

Table-2: The Menopause-specific Quality of Life (MENQOL) Questionnaire

(Vasomotor symptoms)

Characteristics	Frequency (%)	Mean(SD)
Hot flash	92	1.08(.274)
Night sweats	56	1.44(.501)
Sweating	96	1.04(.198)

**SD=Standard Deviation*

The current study regarding Bangladesh shows the occurrence of vasomotor symptoms is also high in percentage. 92% of the participants reported hot flushes as a very common symptom during menopausal transition, 96% complaining of sweating which is highly related to menopausal transition as well as climacteric condition of the country and lastly less percentage of participants facing night sweats (56%) as a menopausal symptom rather than other vasomotor symptoms. The mean±SD value of each symptom is as follows- Hot Flush (1.08±0.274), Night Sweats (1.44±0.501), and Sweating (1.04±0.198) (Table-2).

Distribution of the Psychological symptoms according to Frequency and Mean (SD) value

Table-3: The Menopause-specific Quality of Life (MENQOL) Questionnaire (Psychological symptoms)

Characteristics	Frequency (%)	Mean(SD)
Being dissatisfied with my personal life	60	1.40(.495)
Feeling anxious or nervous	84	1.16(.370)
Experiencing poor memory	84	1.16(.370)
Accomplishing less than I used to do	90	1.10(.303)
Feeling depressed down or blue	64	1.36(.485)
Being impatient with other people	63	1.37(.487)
Feelings of wanting to be alone	42	1.58(.499)

**SD=Standard Deviation*

The current study regarding Bangladesh shows the most frequent psychological symptoms reported were accomplishing less work than before (90%), feeling anxious or nervous (84%) and experiencing poor memory (84%). Other symptoms like "Feeling depressed down or blue" (64%), "Being impatient with other people" (63%), "Being dissatisfied with my personal life" (60%) and "Feelings of wanting to be alone" (42%) were also of noticeable percentages. The highest mean±SD value is of "Feelings of wanting to be alone" (1.58±0.499) and "Being dissatisfied with my personal life" (1.40±0.495) and the lowest is of "Accomplishing less than I used to do" (1.10±0.303) (Table-3).

Distribution of the Physical symptoms according to Frequency and Mean (SD) value

Table-4: The Menopause-specific Quality of Life (MENQOL) Questionnaire (Physical symptoms)

Characteristics	Frequency (%)	Mean(SD)
Flatulence (wind) and gas pains	92	1.08(.274)
Aching in muscles and joints	100	1.00(.000)
Feeling tired or worn out	94	1.06(.240)
Difficulty sleeping	84	1.16(.370)
Aches in back of neck and head	68	1.32(.471)
Decrease in physical strength	98	1.02(.141)
Decrease in stamina	78	1.22(.418)
Feeling a lack of energy	98	1.02(.141)
Drying skin	6	1.24(.431)
Weight gain	48	1.52(.505)
Increased facial hair	0	0
Changes in appearance texture or tone	0	0
Feeling bloated	58	1.42(.499)
Low backache	86	1.14(.351)
Frequent urination	54	1.46(.503)
Involuntary urination when laughing or coughing	72	1.28(.454)

**SD=Standard Deviation*

The recent study shows that among 50 postmenopausal women, “Muscle and joint pain” is a very usual physical symptom with 100% frequency rate in Bangladesh. Other most frequent symptoms are “Decrease in physical strength” (98%), “Feeling a lack of energy” (98%), “Feeling tired or worn out” (94%), “Flatulence and gas pains” (92%) etc. “Low backache” (86%), “Difficulty sleeping” (84%) and “Involuntary urination when laughing or coughing” (72%) are also in noticeable percentage. Drying of skin is a less frequent symptom with the rate of 6%. “Increased facial hair”, “Changes in appearance texture or tone” is two of the most infrequent symptoms with the frequency rate of 0% among 50 participants regarding Bangladesh (Table-4).

Distribution of the Sexual symptoms according to Frequency and Mean (SD) value

Table-5: The Menopause-specific Quality of Life (MENQOL) Questionnaire (Sexual symptoms)

Characteristics	Frequency (%)	Mean(SD)
Change in your sexual desire	10	2.80(.606)
Vaginal dryness during intercourse	2	2.96(.283)
Avoiding intimacy	44	1.56(.501)

**SD=Standard Deviation*

The recent study regarding Bangladesh shows that the most frequent sexual symptom is "Avoiding intimacy" with the rate of 44%. Other two symptoms shows very infrequent rate where "Change in your sexual desire" is only 10% and "Vaginal dryness during intercourse" is only 2% in frequency. But these results are not completely reliable as only 3 to 4 participants answered these questions among 50 participants. Due to social norms and prejudice of Bangladeshi culture women mostly feels awkward to talk about their sexual life openly. So, most of the participants avoided the question, answering with the "Not Applicable" point of the questionnaire. The mean±SD value of "Avoiding intimacy" is 1.56±0.501 (Table-5).

Distribution of the Menopausal symptoms according to Frequency and Mean(SD) value of Severity

Table-6: The Menopause-specific Quality of Life (MENQOL) Questionnaire (Likert scale calculation)

Domains	Symptoms	Mean(SD)	Total Mean(SD)
Vasomotor	Hot Flash	3.43 (1.29)	
	Night Sweats	3.40 (1.07)	2.65 (1.22)
	Sweating	2.78 (1.32)	
Psychological	Being dissatisfied with my personal life	3.10 (1.24)	
	Feeling anxious or nervous	3.55 (1.38)	
	Experiencing poor memory	4.21 (1.09)	
	Accomplishing less than I used to do	3.73 (1.05)	2.50 (1.03)
	Feeling depressed down or blue	3.09 (.963)	
	Being impatient with other people	3.66 (.797)	
	Feelings of wanting to be alone	3.19 (.928)	
Physical	Flatulence (wind) and gas pains	3.63(1.10)	
	Aching in muscles and joints	4.18(1.08)	
	Feeling tired or worn out	3.57(1.26)	
	Difficulty sleeping	4.10(1.20)	
	Aches in back of neck and head	3.41(1.23)	
	Decrease in physical strength	3.51(.869)	
	Decrease in stamina	3.72(1.07)	
	Feeling a lack of energy	3.57(.816)	2.45(.767)
	Drying skin	3.45(1.08)	
	Weight gain	3.21(1.06)	
	Feeling bloated	3.41(1.08)	
	Low backache	4.02(1.22)	
	Frequent urination	3.41(1.47)	
	Involuntary urination when laughing or coughing	3.56(1.40)	

Domains	Symptoms	Mean(SD)	Total Mean(SD)
Sexual	Change in your sexual desire	2.20(1.30)	
	Vaginal dryness during intercourse	2.00(0.0)	0.54(.70)
	Avoiding intimacy	3.09(1.15)	

**SD=Standard Deviation*

In MENQOL questionnaire a 7 point Likert scale is attached with each symptom that determines the severity level of the symptoms. The scoring is performed by adding up the obtained symptom marks. The scores for each of the domains are calculated as the mean of corresponding item values. The total score represents the mean of the four domain scores. Therefore, the total MENQOL score ranged from 0 (asymptomatic woman) to 232 (extremely bothered for each individual item.

According to the recent study, the total mean value of each domain is Vasomotor (2.65), Psychosocial (2.50), Physical (2.45) and Sexual (0.54) where vasomotor domain shows the highest mean value among 50 participants. On the other hand the sexual domain shows the lowest mean value though it includes the limitation of the study for this specific domain (Table-6).

"Increased facial hair", "Changes in appearance texture or tone" is two of the physical symptoms that are excluded from severity calculation table as their frequency percentage is 0 according to Table-4.

Association of socio-demographic characteristics with vasomotor symptoms

Table-7: Relation between socio-demographic characteristics and vasomotor symptoms

Domain	Characteristics	Variables	n (50)	Chi-square value (χ2)	P*-value
Vasomotor	**Age**	45-50 years	14		
		51-56 years	13	49.86	0.05*
Hot flash		57-Above years	23		
Night sweats	**BMI**	Underweight <18.5	1		
Sweating		Normal Weight 18.5 –24.9	27	83.30	0.04*
		Overweight 25.0 – 29.9	18		
		Obese >30.0	4		
	Education	Illiterate	3		
		Primary	10		
		Secondary	11		
		Higher Secondary	10	161.85	0.01*
		BSc	7		
		MSc	8		
		PhD	1		
	Occupation	Housewife	39		
		Teacher	3		
		Banker	1		
		Doctor	0	182.38	0.00*
		Business	1		
		Others	2		
		Retired	4		

**P= Probability *n= Number of individuals*

The vasomotor domain of the questionnaire includes three symptoms and the socio-demographic characteristics include the age, BMI, education and occupation of the participants. In this recent study, most of the participants were between 57-74 years of age and of normal weight. A greater number of participants were housewives and at least primarily educated. The association between vasomotor symptoms and socio-demographic characteristics showed a significant difference for age (P=0.05*), BMI (P= 0.04*), education (P=0.01*) and occupation (P=0.00*) (Table-7).

Association of socio-demographic characteristics with psychological symptoms

Table-8: Relation between socio-demographic characteristics and psychological symptoms

Domain	Characteristics	Variables	n (50)	Chi-square value (χ2)	P*-value
Psychological	**Age**	45-50 years	14		
		51-56 years	13	57.03	0.36
Being dissatisfied with my personal life		57-Above years	23		
	BMI	Underweight <18.5	1		
Feeling anxious or nervous		Normal Weight 18.5 –24.9	27	94.02	0.15
		Overweight 25.0 – 29.9	18		
Experiencing poor memory		Obese >30.0	4		
	Education	Illiterate	3		
Accomplishing less than I used to do		Primary	10		
		Secondary	11		
		Higher Secondary	10	197.72	0.02*
		BSc	7		
Feeling depressed down or blue		MSc	8		
		PhD	1		
	Occupation	Housewife	39		
Being impatient with other people		Teacher	3		
		Banker	1		
		Doctor	0	167.68	0.03*
Feelings of wanting to be alone		Business	1		
		Others	2		
		Retired	4		

**P= Probability *n= Number of individuals*

The psychological domain of the questionnaire includes seven symptoms and the socio-demographic characteristics include the age, BMI, education and occupation of the participants. In this recent study, most of the participants were between 57-74 years of age and of normal weight. A greater number of participants were housewives and at least primarily educated. The association between psychological symptoms and socio-demographic characteristics showed a significant difference Significant for education (P=0.02*) and occupation (P=0.03*) and a non-significant difference for age (P=0.36) and BMI (P= 0.15) (Table-8).

Association of socio-demographic characteristics with physical symptoms

Table-9: Relation between socio-demographic characteristics and physical symptoms

Domain	Characteristics	Variables	n (50)	Chi-square value (χ2)	P*-value
Physical	**Age**	45-50 years	14		
		51-56 years	13	73.29	0.25
Flatulence (wind) and gas pains		57-Above years	23		
Aching in muscles and joints	**BMI**	Underweight <18.5	1		
		Normal Weight 18.5 –24.9	27	128.93	0.02*
Feeling tired or worn out		Overweight 25.0 – 29.9	18		
Difficulty sleeping		Obese >30.0	4		
Aches in back of neck and head	**Education**	Illiterate	3		
		Primary	10		
Decrease in physical strength		Secondary	11		
		Higher Secondary	10	215.58	0.18
Decrease in stamina		BSc	7		
		MSc	8		
Feeling a lack of energy		PhD	1		
	Occupation	Housewife	39		
Drying skin		Teacher	3		
		Banker	1		
Weight gain		Doctor	0	190.17	0.08
		Business	1		
Feeling bloated		Others	2		
		Retired	4		
Low backache					
Frequent urination					
Involuntary urination when laughing or coughing					

**P= Probability *n= Number of individuals*

The physical domain of the questionnaire includes sixteen symptoms and the socio-demographic characteristics include the age, BMI, education and occupation of the participants. In this recent study, most of the participants were between 57-74 years of age and of normal weight. A greater number of participants were housewives and at least primarily educated. The association between physical symptoms and socio-demographic characteristics showed a significant difference for BMI (P= 0.02*) and a non-significant difference for age (P=0.25), education (P=0.18) and occupation (P=0.08) (Table-9).

Association of socio-demographic characteristics with sexual symptoms

Table-10: Relation between socio-demographic characteristics and sexual symptoms

Domain	Characteristics	Variables	n (50)	Chi-square value (χ2)	P*-value
Sexual	**Age**	45-50 years	14		
		51-56 years	13	20.33	0.43
Change in your sexual desire		57-Above years	23		
	BMI	Underweight <18.5	1		
Vaginal dryness during intercourse		Normal Weight 18.5 –24.9	27		
		Overweight 25.0 – 29.9	18	30.84	0.42
Avoiding intimacy		Obese >30.0	4		
	Education	Illiterate	3		
		Primary	10		
		Secondary	11		
		Higher Secondary	10	44.30	0.93
		BSc	7		
		MSc	8		
		PhD	1		
	Occupation	Housewife	39		
		Teacher	3		
		Banker	1		
		Doctor	0	50.95	0.43
		Business	1		
		Others	2		
		Retired	4		

**P= Probability *n= Number of individuals*

The sexual domain of the questionnaire includes three symptoms and the socio-demographic characteristics include the age, BMI, education and occupation of the participants. In this recent study, most of the participants were between 57-74 years of age and of normal weight. A greater number of participants were housewives and at least primarily educated. The association between sexual symptoms and socio-demographic characteristics showed a non-significant difference for age (P=0.43), BMI (P= 0.42), education (P=0.93) and occupation (P=0.43) (Table-10).

According to this study, the significant P*-values don't specify what type of significance is present between the socio-demographic characteristics and the menopausal symptoms. Further descriptive study needed to be conduct to find out the specific significance between socio-demographic characteristics and menopausal symptoms among women.

4.3 Perceptional and menstrual history related questions

The third part of the questionnaire includes the perceptional and menstrual history related questions. It is the self-developed part of the questionnaire which has 8 open ended questions related to a participant's history of menstruation and menopause and perception about menopausal symptoms and women's health related physiotherapy.

According to qualitative study these 8 questions can be emerged into four different themes. The themes describe the types of menopause, participant's awareness about menopause, type of intervention the participants are taking and perception about quality of life and physiotherapy. The themes are as follows-

Theme-1: Are they aware about Menopause?

Sub theme:

1. Concept about menopause
2. Opinion about the symptoms
3. Perception about menopausal symptoms

Theme-2: Women mostly suffer with physiological menopause

- Physiological
- Premature
- Artificial or surgical
- Delayed

Theme-3: Women receives intervention for menopausal symptoms though they were not conscious

Sub theme:

1. If taking any intervention for related symptoms
2. Type of intervention
   - Medical treatment
   - Physiotherapy
   - Both (Medical and physiotherapy)
   - Others

Theme-4: Quality of life of a women is negatively influenced by menopausal symptoms

Sub theme:

1. Opinion about quality of life after facing menopausal symptoms

Theme-5: Physiotherapy intervention is beneficial to improve the QOL of women with menopausal symptoms

Theme-1: Women are not aware about Menopause

1.1 Concept about menopause

The area deals with the participant's concept about menopause. The question that is asked to the participants is "Do you know about menopause?" to reflect if the participant knew what menopause actually is. Among 50 participants, 40 participants replied in the affirmative and said that they knew about menopause but most of their concept is not clear though. Several participants stated "I had heard it from my mother and grandmother that after a certain age menstrual cycle stops permanently". Then they were asked if they heard about the symptoms and demonstrated the fact that the symptoms that were asked before is related to menopause. After knowing the fact they stated that "No, we didn't heard about the symptoms related to menopause beforehand". One of the participants stated "I have heard about menopause before but never clearly heard about the symptoms

that arise after menopause, so when I started facing the symptoms first I was really worried that my husband told me to visit a doctor. After visiting a doctor I got to know that the symptoms are related to the physical change after menopause and they are normal".

The participants who are highly educated had a bit clear concept about menopause as well as the participants who had artificial or surgical menopause though it is because they were informed by their doctors after the surgery. One of the participants with surgical menopause stated "My doctor told me that after the surgery I would face some symptoms and issues like hot flush, night sweats etc and also informed me about the term Menopause". They were further asked if they knew about menopause before the surgery, they replied quite same like other participants.

Among 50 participants, 10 participants completely denied the fact of knowing about menopause. One of the participants who replied in negative stated "I haven't heard about menopause before. When my menstruation stopped I was really worried and thought that maybe I have developed some serious condition but I couldn't tell anybody as I felt really uncomfortable sharing about it. But when I heard other woman in my society is having the same problems and they said it is normal for every woman I felt relieved".

Overall, most of the participants were aware of menopause but very briefly. They don't know the actual physiology of menopause.

1.2 Opinion about the symptoms

With the question "From when did your symptoms started to show?" the area seeks to know if the participant knew the specific time when the symptoms started to show. 35 among 50 participants had no specific idea about when did the symptoms started to show. Most of the participants stated "I can't specifically mention the exact time from when did the symptoms started showing". Though the symptoms causing them a lot of difficulties in their day to day life still they are not concerned about them much. Another participant stated "I am facing these symptoms for a long time but don't know the exact time. I am facing difficulties as well but I have heard from a lot of woman around me that they are

also having same type of symptoms. So, I accepted these symptoms as normal health issues".

Fifteen participants among 50 had idea about the related time but that is also not clearly specific. One of these 15 participants stated "My menstrual cycle stopped at the age of 50 and I guess I am facing these symptoms for last 3 or 2 years". Another participant stated "I am facing these problems for past several months". Only the participants with surgical menopause stated clearly as usual because of the information they got from their doctors. One of them stated "After my surgery I started facing hot flushes a lot. At first it was very difficult for me to maintain my day to day activities because of these symptoms as it has no specific time when will it appear. In no time, I feel a burst out of heat whether it is hot or cold and very depressed down inside which made me very irritated. I still feel irritated but I accepted it as there is no other way'.

In brief, the specific time of when the symptoms started to show is actually unknown to most of the participants. Other had a very narrow idea about the specific time or date.

1.3 Perception about menopausal symptoms

This area is concerned about the perception of the participants about the symptoms they are facing. Through the question "Do you think these symptoms are produced due to menopause?" it is expected to know what the participants think about why they are having these symptoms. What are the actual causes they think are relevant with these symptoms according to the participants. Most of the participants, 36 among 50, stated negatively and said that they have no idea why these symptoms are arising. One of the participants stated "I actually don't know why I am facing these types of symptoms. I forget things really easily, sometimes I feel depressed down inside, I don't feel like working a lot of time and these makes me very uncomfortable but I don't know why I am having these issues".

Rest of the 14 participants stated different reasons of why they think they are having these symptoms. One of them stated "I had kidney disease and I also had a surgery for that. I think these symptoms are arising because of that". Age is one of the common reason most of the participants blamed for these symptoms. One of the participant of 65

years stated “Aged people have to face a lot of problems. These are very common among us aged people. I am aged now; I don’t expect my body to work like before”. Another participant stated “I have diabetes for a long time. Maybe these symptoms are arising because of my high diabetes level”. Some participants said giving birth is one of the reasons of these symptoms. One of them stated “I had given birth to 5 children. I had to take care of them single handedly as well as had to perform household’s work. That is why I am facing low back pain as well as joint pain now”.

In short, most of the participants have no specific perception of reasons for these symptoms and other participants blame several health issues rather than menopause for all these symptoms.

Theme-2: Women mostly suffer with physiological menopause

The types of menopause were demonstrated to the participants before asking the type from individual. There are two types of menopause. Physiological menopause is a natural progressive decline of the menstrual cycle due to decreased ovarian function with an average age of 40-51 years. Pathological menopause is identified with three different phases including premature menopause, artificial or surgical menopause and delayed menopause. Premature menopause is a phase in which the cessation of ovarian function occurs before the age of 40, artificial or surgical menopause is defined as the permanent cessation of ovarian function due to surgical intervention, or medical treatment like chemotherapy or pelvic radiation therapy and when the cessation of ovarian function occurs after the age of 51 it is considered as delayed menopause.

Among 50 participants, 33 participants had physiological menopause which is the majority, 5 participants had premature menopause, 8 participants had artificial or surgical menopause due to uterine tumor or cancer, and 4 participants had delayed menopause.

The participants were asked “What type of menopause did you have?” and along with the question they were briefly informed with the types of menopause and the age related to different types. After knowing briefly about the types of menopause participants easily responded to this question. In case of some participants the question was asked slight differently. It was asked “At what age did your menstrual cycle stopped?” One of the

participants with 55years of age stated "My cycle stopped at least 6 years ago. It stopped very gradually. Before permanently stopping I used to have 15 days of menstruation cycle within a month". Another participant stated "Before my menstrual cycle stopped my 30 days of cycle increased to 50-60 days of cycle though I used to bleed a lot within those menstruation days"

Overall, after a short brief about the type of menopause every participant easily answered about what type of menopause they had.

Theme-3: Women receives intervention for menopausal symptoms though they were not conscious

3.1 Intervention for related symptoms

The area reflects if the participants taking any kind of intervention regarding any of the symptoms. The participants were asked "Are you taking any treatment/intervention for your symptoms?" among 50 participants, 32 participants stated that they are taking different type of interventions regarding different symptoms. One of the participants with sleep disturbance stated "I went to the doctor because I was having severe sleep disturbance for several months. The doctor prescribed me some medications for my problem." Another participant stated "I had gastric issues from a very early age but for past several years it has become worse so I went to visit a doctor". A participant with low back pain stated "I am taking physiotherapy because I am having severe low back pain now-a-days". Another participant stated "I was having psychological problems like depression, lack of interest, irritation to surrounding. So I visited a psychologist for that."

Rest of the 18 participants is not taking any kind of treatment or intervention regarding any symptoms related to menopause. In short, most of the participants were concerned and taking intervention for their betterment but they were taking intervention just for symptomatic management unknowingly regarding menopausal symptoms.

3.2 Type of intervention

This area determines what type of intervention the participants are taking for different symptoms. When the participants reply in affirmative that they are taking intervention for

different menopausal symptoms then they are further asked “What type of intervention are you taking?” There are several options for the participants to answer this question. The options includes-

- Medical treatment
- Physiotherapy
- Both (Medical and physiotherapy)
- Others

Among 50 participants, 32 participants are taking different types of intervention within which 15 participants are taking medical management, 5 participants are taking physiotherapy only, 10 participants are taking both medical management as well as physiotherapy and 2 participants are taking other measures like homeopathy or psychological counseling.

Participants who are taking medical management were further asked what type of medical management they are taking and for which symptoms. Most of the participants replied they are taking different types of medicine commonly includes PPIs, different pain killers; steroid injections etc. One of the participants with severe gas pains stated “I had severe problem of gastric. Sometimes I felt too much pain and discomfort in my stomach that I had to consult a doctor immediately. My doctor prescribed me some medications that I have to take in a regular basis now.” Another participant with joint pain stated “I had knee pain for several years. The condition of my right knee was worsening day by day. So I consult to a doctor and the doctor prescribed some pain medications as well as told me to take 3 steroid injections to suppress the pain. I followed the doctor’s prescription and taken 2 files of injections. Now I have less pain in the knee but still there is an uncomfortable feeling within my knee”.

Participants who are taking physiotherapy as intervention were also further asked what type of physiotherapy they are taking and for which symptom? According to the statement of the participants most common symptoms for taking physiotherapy are low back pain, neck pain, and several joint pains. One of the participants with low back pain stated “I had low back pain for several months. I have heard from a relative that

physiotherapy is very good for treating pains like this. So, I went to a physiotherapist for my treatment and now I am much better than before”. Another participant who has neck pain stated “ I am visiting a physiotherapist for my neck pain recently though I have improved a lot now but as I have to complete the session I am still visiting my therapist regularly”. A participant with knee pain also stated “I had severe knee pain that I could barely walk. So, I visited a physiotherapist for better treatment. My condition has improved a lot now.”

Participants who are taking both medical treatment and physiotherapy also gave same type of statement as others. One of them stated “When I first started facing low back pain I thought it was because of the daily work load so I went to a doctor and he prescribed me some medications but still my condition was not getting any better so I consulted a physiotherapist and went under 15 sessions of physiotherapy. Now my condition is much better”.

One of the participants who is taking different intervention rather than medical or physiotherapy stated “When I started facing hot flushes first I was very worried, I thought it is something very serious. As my husband is a homeopathic doctor I consulted with him and he prescribed me some medications. I started taking homeopathy for my symptoms than and I am improving”. Another patient with sleep disturbance stated “I was having several psychological issues. I couldn’t sleep properly, was facing mental depression for several months even losing my interest in everything. So I consulted a psychologist for my betterment”.

In brief, participants who are taking different interventions were concerned for specific symptoms and consulted with health professionals accordingly.

Theme-4: Quality of life of women is negatively influenced by menopausal symptoms

4.1 Opinion about quality of life after facing menopausal symptoms

This area focuses on the opinion of a participant regarding the fact that after facing the symptoms how their quality of life changed or was it actually changed or not. “Do you

think these symptoms are influencing your Quality of Life?" is the question that is asked to the participants expecting them to reply in the affirmative or negative. After the question is asked it is briefly demonstrated to the participants what quality of life actually means and the fact that these relevant symptoms are related with menopause though it was demonstrated before. After demonstrating the meaning of quality of life, 48 participants among 50 replied in affirmative and said their quality of life is highly influenced by these symptoms. One of the participant stated "Of course, I think my life has changed a lot. I can't work like before, I can't focus on my work, and even I get tired very easily. So, obviously my life has changed". Another participant stated "I can't remember little things now-a-days. I feel very depressed down inside sometimes and even I feel irritated around people. These things are making me very uncomfortable." A participant with severe sleep disturbance stated "I can't sleep for the whole night. Sometimes I can't sleep for consecutive two to three nights. Sleeplessness is making me feel very tired all day long and very weak also'. According to another participant "I feel tired after doing a simple work. It's not like I am doing any heavy work all day long but still I am tired and feel lack of energy inside me". A participants with nervousness issue stated "I feel nervous over simple things. I was always nervous from the early stage of my life even when I was a student but how I feel now is not the same like before. I get scared over very simple things and get tensed for every little thing"

The participants who replied in the negative for this question are less in number. Only 2 participants among 50 replied in negative and stated that they don't think their quality of life has changed so much. One of the participant with surgical menopause stated "No, I don't think my life has changed so much. After my surgery, gradually all these symptoms started to show. Still I am facing these problems regularly but as my doctor said I had to accept them in my regular life, I actually accepted them. I am completing my day to day work coping with these symptoms and winning over them".

In short, though most of the participants didn't have a clear idea about menopausal symptoms, after knowing about them they actually felt that these symptoms are highly influencing their life.

Theme-5: Physiotherapy intervention is beneficial to improve the QOL of women with menopausal symptoms

The last area focuses on the opinion of the participants about physiotherapy as an intervention maintain their quality of life. In previous questions when the participants were asked what type of intervention they are taking regarding these symptoms, 15 participants among 32 were already taking physiotherapy as intervention. So, when they were asked “What is your opinion to treat the menopausal symptoms with physiotherapy to get a good quality of life?” they had a very positive view about physiotherapy. One of them stated “I am taking physiotherapy for my low back pain and it is really helpful. If I have to take physiotherapy in any further situation I would definitely prefer to visit a physiotherapist”. Another participant stated “I went to a physiotherapist for my neck pain once. I am not visiting regularly now but if I face any problem further I would defiantly go to visit again”. When the participants were asked that if they were told that physiotherapy can improve their quality of life by treating menopausal symptoms and maintain a good life after menopause, will they feel interest about physiotherapy then? The reaction of the participants is quite admirable. They were quite happy about the fact and those same participants stated “If physiotherapy gives us the opportunity to live better even after so many complications we will definitely admire the fact and visit a physiotherapist”.

Not only had the participants who were aware about physiotherapy replied in affirmative but also among 50 participants 40 were positive about taking physiotherapy. One of them stated “I had not taken physiotherapy yet for any condition of mine but I had to take my mother once for her low back pain. She recovered very quickly and she is much better now. So I physiotherapy can solve my problems I would also definitely prefer to visit a physiotherapist”. Another participant with cervical disc prolapsed stated “I went to a physiotherapist five years ago because I had cervical disc prolapse. My condition improved a lot. So, if I have to visit a physiotherapist for any other condition I would definitely visit”.

Rest of the 10 participants who are not interested in physiotherapy stated different reasons. One of them stated “We are poor people. We do not get proper treatment even

for serious problems as women. Taking any intervention for maintaining life is a luxury for us". Another participant stated "I am aged now; half of my life has ended. What else do I need to maintain my life now". There are some participants who have not stated any specific reason for their negative statement. They were simply not interested in taking physiotherapy.

Lastly, women's health related physiotherapy is quite a new thing for women in our country. Still the old taboo regarding menstruation and menopause lags the woman behind asking for any kind of solution. They tend to cope up with their health issues for the betterment of their family. Women from poor, middle class or rich family whether educated or uneducated have quite same thought regarding their health. Women's health needs more advocacies in our country and women in our society need to be enlightened with health concern regarding every condition that influences their quality of life.

CHAPTER-V:	DISCUSSION

5.1 Cross Sectional Study

The aim of the study is to determine the relationship between the menopause-related symptoms and their impact on the women's quality of life and to find out the perception of women's health-related physiotherapy after menopause. The study was conducted within different areas of Savar Upazilla and 50 female participants with post-menopausal symptoms were taken.

The menopausal symptoms are divided into four domains- vasomotor, psychological, physical and sexual. According to MENQOL questionnaire there are 29 menopausal symptoms divided accordingly- vasomotor (3), psychological (7), physical (16) and sexual (3) symptoms. Hot flashes, generalized sweating, and night sweats are the most common prevalent vasomotor symptoms in menopausal age. A study of Women's Health across the Nation reports that nearly 65%–80% of the women experience vasomotor symptoms and it may last for almost 1–10 years or maybe longer than that in postmenopausal life (Thurston and Joffe, 2011). A cross-sectional hospital-based study among Pakistani women by Nisar and Sohoo (2009) found that 68.8% of the participants reported vasomotor symptoms of hot flashes and only 2% sweating at night. Another cross sectional study of West Bengal of India shows that the occurrence of vasomotor symptoms was average with 60% of them reporting hot flushes and 47% reporting sweating (Karmakar et al., 2017). According to recent study 92% women complained hot flushes and 96% women complained generalized sweating as frequent vasomotor symptoms. Night sweat is less complained but not minor (56%) according to present study among Bangladeshi women.

Menopause also results in poor psychological health. Women may experience mood disorder, anxious feelings, nervousness, irritability, and emotional outburst etc as post-menopausal symptoms. Karmakar et al., (2017) revealed in a cross-sectional study that most frequent psychological symptoms reported feeling of anxiety and nervousness (94%) and depression (88%) among women in West Bengal, India. A study of Saudi

Arabia among 90 women reported poor memory (48.3%), dissatisfaction with personal life (44.8%) and anxiety (51.7%) as commonly reported psychological symptoms (Mohamed et al., 2014). In this recent study it the most frequently reported psychological symptoms are accomplishing less work than before (90%), anxious (84%) and poor memory (84%).

Physical symptoms in post-menopausal women are very common. In recent study the most frequent physical symptoms reported are muscle and joint pain (100%), decrease in physical strength (98%), lack of energy (98%), feeling tired (94%), gas pains (92%), low backache (86%), difficulty sleeping" (84%), involuntary urination (72%) etc. Approximately similar results were reported by Nayak et al., (2012) that menopausal women suffer with higher frequencies of physical symptoms like tiredness (67.5%), decreased physical energy (64.1%), muscles and joint pain (55.0%), neck pain or headache (54.5%), gas pain (50.7%), low backache (51.7%), lack of energy (47.8%), difficulty in sleeping (44%), feeling bloated (38.8%), involuntary urination while laughing, coughing (38.8%) etc at Karnataka, India in 2012. In a study by Nisar and Sohoo (2009) in Pakistan with 202 participants showed that most prevalent physical symptoms are body ache (81.7%), lack of energy (68.8%) and decrease in physical strengths (66.3%). According to recent study, increased facial hair and changes in appearance texture or tone is two of the most infrequent symptoms with the frequency rate of 0% within selected participants. In other countries like in Saudi Arabia increased facial hair (67.7%) and in West Bengal of India changes in appearance, texture, tone of skin (40%) has a significant frequency rate within selected participants (Mohamed et al., 2014; Karmakar et al., 2017)

In this recent study regarding Bangladeshi women sexual symptoms after menopause shows less frequency in each symptoms but it is due to social norms of less educated Bangladeshi women who feels really awkward replying questions regarding their sexual life. The most frequent sexual symptom in this study is avoiding intimacy (44%). Other two symptoms shows very infrequent rate where change in your sexual desire (10%) and vaginal dryness during intercourse (2%). A cross-sectional study by Santpure et al., (2016) in Maharashtra reveals that sexual activity decreased from 54.4% to 5.6% in

menopause and women avoid sexual activity related to decrease sexual energy (10.7%), vaginal dryness (55.36%), and painful intercourse (10.7%). A study of Saudi Arabia by Mohamed et al., (2014) reported that changes in their sexual desire (36.8%) and avoiding intimacy (60.5%) are the frequent sexual symptoms among 90 participants.

Previous studies that explored the association between menopausal symptoms and socio-demographic, lifestyle, health, and psychosocial factors reported that poor socioeconomic status, education, and age are related to vasomotor, psychological and physical symptoms (Fallahzadeh, 2010). In socio-demographic study it was found that in West Bengal of India among 100 participants, the age range of post-menopausal women is maximum between 46-50 years (39%) and the age range is minimum between 56-60 years (9%) with a minimum age of 40 years and maximum age of 60 years (Karmakar et al., 2017). Another cross-sectional study of Iran with 480 participants shows that maximum (28.3%) post-menopausal women is between the age of 60-65 years and approximately less (17.3%) women is between the age of 40-49 years (Fallahzadeh, 2010). In this study it is found that maximum post-menopausal women is between the age of 57-above years (48%) and less women is between the age of 51-56 years (24%) with a minimum age of 45 years and maximum age of 74 years. In a regional survey of seven South-east Asian countries (Hong Kong, Indonesia, Korea, Malaysia, the Philippines, Singapore and Taiwan), the median age at menopause was 51.1 years and among women in Bangkok, Thailand, the average age at menopause was 49.5 years (Palacios et al., 2010). In this study the average age of menopause is 55.5 years. The association between menopausal symptoms and age according to recent study shows that there is a significant relationship between vasomotor symptoms and age of post-menopausal woman. In a study of Iran it is demonstrated by Fallahzadeh (2010) that older women had a significantly better health related-QOL compared with younger women. According to him there is a decline in the prevalence of vasomotor, physical and psychological symptoms after menopause and older women may have learned to handle with menopausal symptoms over time. The recent study also shows an insignificant relationship between psychological, physical and sexual symptoms with age after menopause.

The BMI ratings of post-menopausal women according to this study show that majority of the women is of normal weight (56%) with BMI between-18.5 to 24.9 and a minority of women is under weight (2%) with BMI less than 18.5. A cross-sectional study of Minia, Egypt with 1100 participants shows that majority of the women is over weight (43.3%) with BMI between-25 to 29.9 and a minority of women is under weight (3.5%) with BMI less than 18.5 (Kamal and Seedhom, 2017). Fallahzadeh (2010) shows in another study of Iran with 480 participants that majority of the women is over weight (46.2%) and a minority of women is under weight (0.8%). According to a study of Minia, Egypt women with normal BMI scores had lower vasomotor symptom scores and better health-related QOL than obese women, though the association between obesity and vasomotor symptoms is contradictory. Peripheral conversion of androstenedione to estrone in adipose tissue is greater in obese postmenopausal women than women of normal weight and this might be associated with fewer hot flushes in overweight women. On the other hand a higher BMI correlated with a higher climacteric symptom score. This might be because obese women sweat more frequently due to extra weight and also obesity is associated with less exercise and poorer general health (Fallahzadeh, 2010; Moilanen et al., 2012). Another cross-sectional study of Iran stated regarding association that women with low BMI report higher numbers of hot flashes when compared to women with normal BMI range (Mohamed et al., 2014). In this recent study a significant association has been found for BMI with vasomotor and physical symptoms and an insignificant relationship has been found for psychological and sexual symptoms after menopause.

According to this study most of the women are housewives which is around 76%, 14% are working outside of home in different sectors and 10% are retired from work. In a study of West Bengal of India among 100 participants, 94% of women are housewives and 6% women are working outside (Karmakar et al., 2017). Kamal and Seedhom (2017), found with another study of Minia of Egypt including 1100 participants that 86.7% women are housewives, 11.8% are working outside of home in different sectors and 1.5% is retired from work. In a cross-sectional study of Iran with 480 participants who are divided only into employed and unemployed, shows that majority of women (82.5%) are unemployed and only 17.5% are paid employee in different sectors

(Fallahzadeh, 2010). The association between vasomotor and psychological symptoms after menopause has been found significant with occupation according to recent study and regarding physical and sexual symptoms the association result is insignificant. Active lifestyle has greater effects on satisfaction of life, physical, and emotional well-being and also positively associated with minimal sleep disorders, mood swings, and better cognitive functions. Women who are not physically active often report poor psychosocial health (Villaverde-Gutiérrez et al., 2006). A cross-sectional survey of 2007 by Kakkar et al., (2007) conducted in Mohali, indicating that women who are nonworking and leads a sedentary lifestyle suffer with higher frequencies of psychosomatic and urogenital disorders. In another study of Pune, Maharashtra, contradictory findings were reported by Kaulagekar (2011) that the prevalence of menopausal symptoms was comparatively minimal in housewives compared to employed women. Ganapathy and Al Furaikh (2018) stated that working women enjoy better QOL than the homemakers which could be the result of greater social networking, economic independence, higher self-esteem, and ego integrity that a working woman enjoys.

The educational status of the participants according to this study shows that 10% of the participants completed primary education, 11% of the women completed secondary education, 10% of the participants completed higher secondary education, 16% completed further higher education and only 3% of the women were illiterate. In West Bengal of India a cross-sectional study a with 100 participants shows that 14% of the participants completed primary education, 10% of the women completed secondary education, 6% of the participants completed higher secondary education and 67% of the women which is the maximum were illiterate (Karmakar et al., 2017). In a study of Minia of Egypt among 1100 participants, majority (59.6%) of women were illiterate, 10.2% studied up to high school and 3.1% studied up to university and above (Kamal and Seedhom, 2017). Fallahzade (2010) shows in another study of Iran among 480 participants that 34% women were illiterate which is the majority among the participants, 35% studied up to elementary school, 12.9% studied up to high school and 8.8% studied up to university. Educational level of a woman has been seen associated with menopausal symptoms. Several studies have reported that women who had higher educational level experience fewer symptoms during menopause and had higher quality of life (Mohamed

et al., 2014). The United Arab Emirates is an exception regarding the fact that the intensity of vasomotor, physical, and sexual symptoms is related to lower educational level. Having a high level of education and being employed may be indicators of high income levels and increased access to healthcare or level of awareness of available coping mechanisms for menopausal symptoms (Karaçam and Şeker, 2007). In this recent study a significant relationship has been found between educational level of post-menopausal woman with vasomotor and psychological symptoms and an insignificant relation has been found for physical and sexual symptoms.

5.2 Qualitative Study

With increase in life expectancy throughout the world, women live one-third of their life with menopausal stage. Therefore, they should have knowledge about the health effects and symptoms of menopause with its prevention.

Women who live in western countries are better informed about health effect of menopause. According to one survey conducted at Pakistan in 2008 with 863 participants it is reported that 78.79% women were aware about menopause but only 15.87% had knowledge about symptoms and health effects of menopause (Nusrat et al., 2008). Another study of Mexico City by Velasco–Murrillo et al., (2000) reported that 83.8% of women have knowledge about climacteric symptoms, 90% knew about osteoporosis, 37% had some knowledge about cardio-vascular risk after menopause. In this recent study 80% woman has idea about menopause but their knowledge regarding symptoms and health implication after menopause is not clear and precise. Only woman who had surgical menopause and informed after surgery knows about the health implications after menopause.

In this recent study it is perceived that 70% of woman doesn't have any actual opinion about the time from when the symptoms started to show. 10% of woman could tell the time but that is also not specific. It might be because of lack of education and knowledge about menopausal health implications woman doesn't actually notice any issues regarding their health or they might notice but ignore it anyway. Interestingly, a survey of Taiwan reported that the perception percentage of menopausal symptoms in the non-menopausal women is much higher than the real experienced percentage in postmenopausal women. According to Pan et al., (2002) this might be because the symptoms are easy to notice and dislike.

Women in western societies view menopause as a natural process and shows a positive attitude. Chen et al., (1998) reported that 91.7% midlife Chinese women in Taiwan perceive menopause a natural process and deals with menopause in a positive way. Another cross sectional study from south India showed quite similar results that 57% of women perceive menopause as convenient (Aaron et al., 2002). A Pakistani study with

863 participants reported that 78.79% of our study women perceive menopause as a natural process and 83.42% were happy due to cessation of menses. Among Western studies one study of 53 Canadian Italian women explained that most of the woman consider menopause as a natural process of aging (Bonetta et al., 2001). According to recent study 78% participants has no specific perception regarding the symptoms and think it as a natural process according to their knowledge. 22% participants stated several reasons like aging and other diseases.

Menopause is overall divided into four types. Physiological menopause, Premature menopause, Artificial or surgical menopause and Delayed menopause. In this recent study regarding Bangladeshi woman it is found that majority of woman (66%) of woman had physiological menopause, 10% had premature menopause, 16% had artificial and surgical menopause and 8% had delayed menopause. The researcher did not found any relative study that shows the frequent type of menopause woman faces in other countries.

According to recent survey when the participants were asked "Are you taking any treatment/intervention for your symptoms?" about 64% of the woman reported that they are taking different type of intervention regarding different symptoms of menopause. Rest of the 36% participants was not taking any kind of intervention. Maybe it is because most of the woman consider menopause as a natural process of aging and they have belief that such problems are an expected part of life for them. According to Asian menopause survey in 2010, it is reported that, in terms of treatment among 1000 postmenopausal women from China, Malaysia, Taiwan, Thailand and Hong Kong 59% of women were not currently any receiving treatment for postmenopausal symptoms. Rest of the woman is taking different type of intervention like drugs, hormone replacement therapy (HRT) etc. According to the survey this percentage is identical to the percentage reported in the European Menopause Survey (Huang et al., 2010).

In this cross-sectional survey the researcher added intervention options for the participants to reply accordingly. Medical treatment, Physiotherapy, Both medical treatment and physiotherapy and others like hormone therapy or homeopathy etc are the options the participants answered accordingly. Through this survey it is found that 44% participants were taking drugs, 4% participants are taking physiotherapy, 12%

participants taking both drugs and physiotherapy and 4% taking other intervention mostly homeopathy treatment. In western countries, Hormone replacement Therapy (HRT) is considered one of the option treating menopausal symptoms. According to Asian menopause survey in 2010 which aims to perceive the opinions, attitudes, and knowledge of menopausal women in Asia regarding menopause and hormone replacement therapy (HRT) reported that women from Thailand were have more positive feelings about HRT, while women from Hong Kong generally reported more negative feelings towards HRT. The survey also showed the percentage of woman using drugs regarding menopausal symptoms which is 26.3 %. Similar survey in Europe was done in 2005 in which it is mentioned that women from countries in which the incidence of menopausal symptoms were comparatively high participants were more likely to be more informed of the treatment options available, and more likely to start HRT. According to cross sectional survey by Genazzani et al., (2006) the percentage of HRT users was significantly higher in the UK, France, Belgium, and Germany whereas the Use of HT in the Netherlands and Spain was significantly lower. In the same survey it is also mentioned that in the group of women who are not using any kind of treatment their main reason was that their symptoms were not severe enough or did not bother them enough and in the women who chose natural (herbal, homeopathic) products, most of them did not choose HT because of the risks. Begum et al., (2001) had done a case-controlled study among Bangladeshi woman regarding the effectiveness of HRT on bone mass density after menopause and found a positive result but still this treatment is not renowned in our country maybe because of expense, acknowledgement and carelessness about the symptoms. A placebo-controlled trial study by Moriyama et al., with 44 postmenopausal women who had undergone hysterectomy divided into 3 groups in which group 1 included hormone replacement therapy, group 2 physical activities and group 3 as control group. After 24 weeks of treatment, only the physical activity group showed an increase in quality of life.

The menopause is a unique experience that every woman has to face. It is not a disease, but rather a stage of biological and physiological development. In recent qualitative study when the participants were asked about the opinion regarding the state of quality of life after facing menopausal symptoms majority (96%) of the woman stated their opinion that their quality of life is actually worsening due to these symptoms. Other 4% who stated

better quality of life even after facing these symptoms maybe because they cope up well or face less severity in case of menopausal symptoms. In a cross-sectional survey of India with 140 participants stated that each menopausal woman showed a considerably poor QOL in the physical, psychological, vasomotor, and sexual domains of MENQOL questionnaire (Ganapathy and Al Furaikh, 2018). A similar study in Pakistan showed that 99% of the menopausal women suffer from physical problems, 96% with psychological disorders, 71% with vasomotor symptoms, and 66% with sexual dysfunctions which leads to decrease quality of life (Nisar and Sohoo, 2009). According to Fallahzadeh (2010) revealed that being younger, having low education, and having higher BMI resulted in poorer menopause-specific QOL on many of the MENQOL domains in general.

According to this survey the participants were lastly asked about their opinion about physiotherapy to maintain better quality of life after menopause. 80% of the woman showed positive attitude towards physiotherapy. Among them some of the woman is already taking physiotherapy for several symptoms. Remaining 20% is not interested in physiotherapy that is due to economic status or poor knowledge about physiotherapy. According to several studies physiotherapists are involved in the management of a range of women's health issues, including obstetrics, osteoporosis, breast health, urinary incontinence etc. According to the Canadian Physiotherapy Association for the Society of Obstetricians and Gynecologists of Canada stated that physiotherapist has very important role in maintaining postural health in woman after menopause. The musculoskeletal, urogenital, physiological, and vascular changes affecting women during menopause have a significant impact on the essential characteristics of both bone and muscle which leads to poor posture after a certain period of time (Britnell et al., 2005). A quasi-experimental study with 48 participants in Spain reported that with 12-month program of exercise sessions held twice weekly improved the menopausal symptoms and HRQOL of post-menopausal women, whereas a control group of menopausal women who did not participate in the program showed a worsening of symptoms and HRQOL (Villaverde-Gutiérrez et al., 2006).Wallace and Cumming stated though a systemic review that exercise slows the rate of bone loss at the spine in postmenopausal women and have a positive impact on bone mass at the lumbar spine in premenopausal women.

Physiotherapists use strength training, manual therapy, balance training, ergonomic advice, pelvic floor muscle training functional training (coordination, strength, muscle resistance, flexibility, and relaxation), mechanical, and physical or electrotherapy agents. and postural reeducation in the treatment of maintaining better QOL among woman during old age, pregnancy, adolescents period, menopause etc (Britnell et al., 2005).

5.3 Limitations

There were some barriers and limitations during concluding this study. This are-

- The time was limited due to covid-19 pandemic which made it difficult to conduct a community based study.
- A small number of samples had been taken which were very small to generalize the result due to pandemic.
- It was a specific community based study; this was not reflecting the whole population.
- The interview schedule and interviewing skills were not in depth to get deeper information from the participant, as it was a first attempt to conduct the study.
- In any study it is impossible to be extremely accurate. As it was the first research of the researcher so might be there were some mistakes.

CHAPTER-VI : CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

In conclusion it can be said that majority of the woman faces difficulties during menopausal stages thus reduce their quality of life after menopause. A significant relationship has been found between menopausal symptoms and socio-demographic status of a woman though this study didn't clarify the specific relationship between the menopausal symptoms and the socio-demographic characteristics. Almost all the domains evaluated were impaired in menopausal women. A large number of women all over the world had to suffer from menopausal symptoms, and the problem cannot be ignored. Due to lack of knowledge and awareness of menopausal symptoms woman lags behind to share their problems with anyone until it becomes severe. Social norms and taboos plays a big role in case of woman in our country specially in illiterate woman which makes them feel awkward sharing any issues related to menstruation, physical or sexual problems. Education, creating awareness and providing suitable intervention to improve the QOL are important in handling this issues which need to be addressed in details.

The study also showed a positive perception of woman about taking physiotherapy as an early intervention for treating menopausal symptoms. The women who were already taking physiotherapy as an intervention were very satisfied with their result. The women who never took physiotherapy were also interested in taking it as an intervention because of the knowledge they perceive about physiotherapy from different media. Still there is a gap in the acknowledgement of physiotherapy in the people who are illiterate also with low socioeconomic status. Beside that woman's health related physiotherapy is still a developing sector in our country which needs more concentration of health professionals as well as more publicity.

6.2 Recommendations

The aim of the study is to determine the relationship between the menopause-related symptoms and their impact on the women's quality of life and to find out the perception of women's health-related physiotherapy after menopause. However the study had some limitations as well as some issues were identified that might be helpful for better accomplishment of further study. There are some recommendations which is included-

- The duration of the study is short due to pandemic, so in future wider time would be taken for conducting the study.
- The study could be done on wide sample size.
- Perception is a broad term which depends on many things such as treatment environment, outcome, cost etc. So, there are other specific points that can be added to the self-built questionnaire.
- In this study the researcher only took sample from a surrounding community which is a small area. So, for further study researcher strongly recommend including a large community for better outcome of the results.

CHAPTER- VII: REFERENCES

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Appendix

Letter of consent

(Participant must read)

Assalamualaikum / Greetings,

My name is Mehnaz Irin Khan, ID # 112150295; I am a student studying in the 4th year of B.Sc in Physiotherapy at Bangladesh Health Professions Institute. As part of my dissertation for the final year, "Perception of Women's Health-related Physiotherapy & Quality of Life Among Women After Menopause"; I am researching in the following topic. The purpose of this study is to find out if menopausal symptoms are affecting the women's Quality of Life & the perception of taking physiotherapy as an early intervention. If you agree, I will ask you various questions regarding the symptoms of menopause and the perception regarding taking physiotherapy as an early intervention. It will take you approximately 10-20 minutes to complete the entire task. My participation in this research will not hurt you. All your personal information will be kept private at the time of the report or sources of this information will be anonym. Your participation in this study is optional and you may withdraw from the study at any time with no negative results. If you are interested in learning more about research, you can contact the person below.

Mehnaz Irin Khan

4th year,

B.Sc in Physiotherapy

BHPI, CRP

(Mobile - 01754569625)

If you have any questions before you begin, you can.

Can I start your meeting with your consent?

☐ Yes ☐ No

Participant's Signature and Date...................................

Signature of interviewee and Date...................................

Signature of Witness and Date..............................

সম্মতিপত্র

(অংশগ্রহণকারীকে পড়ে শোনাতে হবে)

আসসালামুআলাইকুম / নমস্কার,

আমার নাম মেহনাজ আইরিন খান, আইডি# ১১২১৫০২৯৫, আমি বাংলাদেশ হেলথ প্রফেশন্স ইন্সটিটিউট– এর ফিজিওথেরাপি বিভাগের বি এস সি প্রোগ্রামের চতুর্থ বর্ষে অধ্যায়নরত একজন ছাত্রী। চতুর্থ বর্ষের গবেষনার অংশ হিসেবে আমি "মহিলাদের স্বাস্থ্য সম্পর্কিত ফিজিওথেরাপি বিষয়ক উপলব্ধি এবং মেনোপজের পর মহিলাদের জীবনযাত্রার মান" শীর্ষক একটি গবেষণা করছি। গবেষণার উদ্দেশ্য হলো মেনোপজ এর লক্ষণগুলি নারীদের জীবনযাত্রার মানকে কিভাবে প্রভাবিত করছে এবং প্রাথমিক হস্তক্ষেপ হিসাবে ফিজিওথেরাপি নেওয়ার উপলব্ধিটি কতটুকু তা খুঁজে বের করা। গবেষণার প্রয়োজনে আমি মেনোপজ এর লক্ষণগুলি সম্পর্কিত এবং প্রাথমিক হস্তক্ষেপ হিসাবে ফিজিওথেরাপি নেওয়ার উপলব্ধিটি কতটুকু এ বিষয়ক বিভিন্ন প্রশ্ন করবো। সম্পূর্ণ কাজটি সম্পাদন করতে আপনার আমার সাথে আনুমানিক ১০-২০ মিনিট সময় লাগবে । আমার এই গবেষণাতে অংশ গ্রহন করার ফলে আপনার কোন ক্ষতি হবে না । আপনার সকল ধরণের ব্যাক্তিগত তথ্য প্রতিবেদন প্রকাশকালে গোপন রাখা হবে অথবা এই তথ্যের উৎসগুলো নামবিহীন রাখা হবে । এই গবেষণাতে আপনার অংশগ্রহণ হবে ঐচ্ছিক এবং আপনি কোন নেতিবাচক ফলাফল ছাড়াই এই গবেষণা থেকে যে কোন সময় নিজেকে প্রত্যাহার করতে পারবেন।

আপনার যদি গবেষণা সম্পর্কে আরও কিছু জানার আগ্রহ থাকে, তাহলে আপনি আমার সাথেনিম্ন বর্ণিত ব্যাক্তির সাথে যোগাযোগ করতে পারেবন।

মেহনাজ আইরিন খান

চতুর্থ বর্ষ

বি. এস. সি. ইন ফিজিওথেরাপি

বি. এইচ. পি. আই., সি. আর. পি.

(মোবাইল – ০১৭৫৪৫৬৯৬২৫)

শুরু করার পুর্বে আপনার কোন প্রশ্ন থাকলে আপনি করতে পারেন।

আপনার সম্মতি থাকলে আমি কি আপনার সাক্ষাত আরম্ভ করতে পারি?

☐ হ্যাঁ ☐ না

অংশগ্রহণকারীর স্বাক্ষর ও তারিখ ....

সাক্ষাৎকার গ্রহণকারীর স্বাক্ষর ও তারিখ ....

সাক্ষীর স্বাক্ষর ও তারিখ ....

Questionnaire (English)

Q.1. Sociodemographic Questions

Name:	**Age:**
Height:	**Weight:**
BMI:	☐ **Underweight** <18.5 ☐ **Normal Weight** 18.5 – 24.9 ☐ **Overweight** 25.0 – 29.9 ☐ **Obese** >30.0
Education Status:	☐ **Illiterate** ☐ **Primary** ☐ **Secondary** ☐ **Higher Secondary** ☐ **B. Sc** ☐ **M. Sc** ☐ **Ph. D** ☐
Occupation:	☐ **Housewife** ☐ **Teacher** ☐ **Banker** ☐ **Doctor** ☐ **Business** ☐ **Others** ☐ **Retired**

Q.2. The Menopause-specific Quality of Life (MENQOL) Questionnaire

For each of the following items, indicate whether you have experienced the problem in the PAST MONTH. If you have, rate how much you have been bothered by the problem.

No.	Symptoms		Not at all Bothered 0 1 2 3 4 5 6 Extremely Bothered
1.	Hot flushes or flashes	□ Yes □ No	0 1 2 3 4 5 6
2.	Night sweats	□ Yes □ No	0 1 2 3 4 5 6
3.	Sweating	□ Yes □ No	0 1 2 3 4 5 6
4.	Being dissatisfied with my personal life	□ Yes □ No	0 1 2 3 4 5 6
5.	Feeling anxious or nervous	□ Yes □ No	0 1 2 3 4 5 6
6.	Experiencing poor memory	□ Yes □ No	0 1 2 3 4 5 6
7.	Accomplishing less than i used to do	□ Yes □ No	0 1 2 3 4 5 6
8.	Feeling depressed down or blue	□ Yes □ No	0 1 2 3 4 5 6
9.	Being impatient with other people	□ Yes □ No	0 1 2 3 4 5 6
10.	Feelings of wanting to be alone	□ Yes □ No	0 1 2 3 4 5 6
11.	Flatulence (wind) and gas pains	□ Yes □ No	0 1 2 3 4 5 6
12.	Aching in muscles and joints	□ Yes □ No	0 1 2 3 4 5 6
13.	Feeling tired or worn out	□ Yes □ No	0 1 2 3 4 5 6
14.	Difficulty sleeping	□ Yes □ No	0 1 2 3 4 5 6
15.	Aches in back of neck and head	□ Yes □ No	0 1 2 3 4 5 6
16.	Decrease in physical strength	□ Yes □ No	0 1 2 3 4 5 6
17.	Decrease in stamina	□ Yes □ No	0 1 2 3 4 5 6

18.	Feeling a lack of energy	□ Yes □ No	0 1 2 3 4 5 6
19.	Drying skin	□ Yes □ No	0 1 2 3 4 5 6
20.	Weight gain	□ Yes □ No	0 1 2 3 4 5 6
21.	Increased facial hair	□ Yes □ No	0 1 2 3 4 5 6
22.	Changes in appearance texture or tone	□ Yes □ No	0 1 2 3 4 5 6
23.	Feeling bloated	□ Yes □ No	0 1 2 3 4 5 6
24.	Low backache	□ Yes □ No	0 1 2 3 4 5 6
25.	Frequent urination	□ Yes □ No	0 1 2 3 4 5 6
26.	Involuntary urination when laughing or coughing	□ Yes □ No	0 1 2 3 4 5 6
27.	Change in your sexual desire	□ Yes □ No □ Not applicable	0 1 2 3 4 5 6
28.	Vaginal dryness during intercourse	□ Yes □ No □ Not applicable	0 1 2 3 4 5 6
29.	Avoiding intimacy	□ Yes □ No	0 1 2 3 4 5 6

Q.3. Perceptional Questions

1. **Do you know about menopause?**	☐ **Yes** (if 'yes' then explain what you know?) ☐ **No**
2. **What type of menopause did you have?**	☐ **Physiological menopause** (Natural progressive decline of the menstrual cycle due to decreased ovarian function with an average age of 40-51 years) ☐ **Premature menopause** (The cessation of ovarian function occurs before the age of 40) ☐ **Artificial or Surgical menopause** (The permanent cessation of ovarian function due to surgical intervention, or medical treatment like chemotherapy or pelvic radiation therapy) ☐ **Delayed menopause** (The cessation of ovarian function occurs after the age of 51)
3. **From when did your symptoms started to show?**	
4. **Do you think these symptoms are produced due to menopause?**	☐ **Yes** (if 'yes' then why?) ☐ **No** (if 'no' then why?)

5. Are you taking any treatment/intervention for your symptoms?	☐ **Yes** ☐ **No**
6. What type of intervention are you taking? (Answer if 'yes' to question no.5)	☐ **Medical treatment** (Please explain) ☐ **Physiotherapy** (Please explain) ☐ **Both** ☐ **Others** (Please explain what type of treatment you are taking?)
7. Do you think these symptoms are influencing your Quality of Life?	☐ **Yes (If 'yes' then how?)** ☐ **No (If 'no' then why not?)**
8. What is your opinion to treat the menopausal symptoms with physiotherapy to get a good quality of life?	

Questionnaire(Bangla)

প্র.১-

নামঃ	বয়সঃ
উচ্চতাঃ	ওজনঃ
বি.এম.আই (BMI):	☐ কম ওজন < ১৮.৫ ☐ স্বাভাবিক ওজন ১৮.৫–২৪.৯ ☐ অতিওজন বা ওভারওয়েট ২৫.০–২৯.৯ ☐ স্থূলতা >৩০.০
শিক্ষাগত যোগ্যতাঃ	☐ নিরক্ষর ☐ প্রাথমিক ☐ মাধ্যমিক ☐ উচ্চমাধ্যমিক ☐ বি এস সি ☐ এম এস সি ☐ পি এইচ ডি
পেশাঃ	☐ গৃহিনী ☐ শিক্ষক ☐ ব্যাংকার ☐ ডাক্তার ☐ ব্যাবসায়ী ☐ অন্যান্য ☐ অবসরপ্রাপ্ত

প্র.২-

নীচের প্রতিটি আইটেমের জন্য, আপনি গত মাসে সমস্যাটি অনুভব করেছেন কিনা তা নির্দেশ করুন। যদি আপনি অনুভব করে থাকেন তবে সমস্যাটি নিয়ে আপনি কতটা বিরক্ত হয়েছেন তা নির্ধারণ করুন।

নং	উপসর্গ		মোটেই বিরক্ত নয় ০	১	২	৩	৪	৫	৬ প্রচুর বিরক্ত
১	হট ফ্ল্যাশ	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
২	রাতে ঘাম	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
৩	ঘামা	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
৪	আমার ব্যক্তিগত জীবন নিয়ে অসন্তুষ্টি হচ্ছে	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
৫	উদ্বিগ্ন বা নার্ভাস বোধ করছেন	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
৬	দুর্বল স্মৃতির অভিজ্ঞতা	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
৭	আমি যেটুকু কাজ আগে করতে পারতাম তার চেয়ে কম সম্পাদন করতে পারছি	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
৮	হতাশাগ্রস্থ বোধ করা	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
৯	অপরের প্রতি অধৈর্য ব্যবহার করা	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
১০	একা থাকতে চাওয়ার অনুভূতি হওয়া	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
১১	পেট ফাঁপা (বাতাস) এবং গ্যাসের ব্যথা হওয়া	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
১২	পেশী এবং জয়েন্টগুলোতে ব্যাথা অনুভব করা	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
১৩	ক্লান্ত বোধ হয়	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬

১৪	ঘুমোতে অসুবিধা হয়	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
১৫	ঘাড় এবং মাথার পিছনে ব্যথা হয়	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
১৬	শারীরিক শক্তি হ্রাস পেয়েছে	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
১৭	মনোবল হ্রাস পেয়েছে	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
১৮	শক্তির অভাব বোধ করা	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
১৯	ত্বকের শুষ্কতা	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
২০	ওজন বৃদ্ধি পাওয়া	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
২১	ত্বকের চুল বেড়েছে	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
২২	চেহারা, গঠন বা কণ্ঠস্বর এ পরিবর্তন এসেছে	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
২৩	মেদবহুল অনুভুতি হওয়া	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
২৪	কোমর ব্যাথা করা	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
২৫	ঘন ঘন মূত্রত্যাগ করা	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
২৬	হাসতে বা কাশি দেয়ার সময় প্রস্রাব বের হয়ে যাওয়া	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬
২৭	আপনার যৌন ইচ্ছায় পরিবর্তন এসেছে	□ হ্যাঁ □ না □ প্রযোজ্য নয়	০	১	২	৩	৪	৫	৬
২৮	সহবাসের সময় যোনিপথে শুষ্কতা অনুভুত হওয়া	□ হ্যাঁ □ না □ প্রযোজ্য নয়	০	১	২	৩	৪	৫	৬
২৯	ঘনিষ্ঠতা এড়ানো	□ হ্যাঁ □ না	০	১	২	৩	৪	৫	৬

প্র.৩-

১। আপনি কি মেনোপস সম্পর্কে জানেন?	☐ হ্যাঁ (কি জানেন বিশ্লেষণ করুন) ☐ না
২। আপনার মেনোপস কি ধরনের?	☐ ফিজিওলজিকাল মেনোপস (গড়ে ৪০-৫১ বছর বয়স হওয়ার সাথে ডিম্বাশয়ের কার্যকারিতা হ্রাসের কারণে ঋতুচক্রের প্রাকৃতিক প্রগতিশীল অবনতি) ☐ প্রিম্যাচিউর মেনোপস (40 বছর বয়সের আগে ডিম্বাশয়ের ক্রিয়া বন্ধ হয়ে যাওয়া) ☐ আর্টিফিশিয়াল বা সারজিকাল মেনোপস (অস্ত্রোপচারের কারণে ডিম্বাশয়ের ক্রিয়া স্থায়ীভাবে বন্ধ হওয়া বা কেমোথেরাপি বা পেলভিক রেডিয়েশন থেরাপির মতো চিকিৎসা) ☐ ডিলেইড মেনোপস (ডিম্বাশয়ের ক্রিয়া বন্ধ হওয়া ৫১ বছর বয়সের পরে ঘটে)
৩। কবে থেকে আপনার লক্ষনগুলো দেখা যাচ্ছে?	
৪। আপনিও কি মনে করেন আপনার এই লক্ষনগুলো মেনোপস এর কারনআরদেখা দিচ্ছে?	☐ হ্যাঁ (কেনো বিশ্লেষণ করুন) ☐ না (কেনো বিশ্লেষণ করুন)
৫। আপনি কি কোনো চিকিৎসা নিচ্ছেন আপনার লক্ষনগুলোর জন্য?	☐ হ্যাঁ ☐ না

৬। আপনি কি ধরনের চিকিৎসা নিচ্ছেন? (৫ নং প্রশ্নের উত্তর 'হ্যাঁ' হলে)	☐ মেডিক্যাল চিকিৎসা (বিশ্লেষণ করুন) ☐ ফিজিওথেরাপি (বিশ্লেষণ করুন) ☐ উভয়ই ☐ অন্যান্য (কি ধরনের বিশ্লেষণ করুন)
৭। আপনি কি মনে করেন এই লক্ষনগুলো আপনার জীবন মান কে প্রভাবিত করছে?	☐ হ্যাঁ (কিভাবে তা বিশ্লেষণ করুন) ☐ না (কেনো নয় তা বিশ্লেষণ করুন)
৮। জীবনের মান উন্নয়নের জন্য ফিজিওথেরাপির মাধ্যমে মেনোপজাল লক্ষণগুলির চিকিৎসা করার ব্যাপারে আপনার মতামত কী?	

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

Ref: CRP-BHPI/IRB/08/2020/402

Date: 24th August 2020

To
Mehnaz Irin Khan
4th year B.Sc. in Physiotherapy
Session: 2015-16, Student ID:112150295
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Subject: Approval of the thesis proposal "**Perception of Women's Health-related Physiotherapy & Quality of Life Among Women After Menopause**" by ethics committee.

Dear Mehnaz Irin Khan,
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 documentshave been reviewed and approved:

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

The purpose of the study is to find out perception of women about the physiotherapy service they received in Bangladesh. The study involves use of a questionnaire that may take 15 to 20 minutes to answer the questionnaire and there is no likelihood of any harm to the participants. 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 (23 IRB Meting)**.

The institutional Ethics committee expects to be informed about the progress of the study, any changesoccurring 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,

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

CRP-Chapain, Savar, Dhaka-1343, Tel : 7745464-5, 7741404
E-mail : principal-bhpi@crp-bangladesh.org, Web: bhpi.edu.bd, www.crp-bangladesh.org

Date: August 24, 2020

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 Mehnaz Irin Khan, 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, **"Perception of Women's Health-related Physiotherapy & Quality of Life Among Women After Menopause"** under the supervision of Ms. Shamima Islam Nipa, Lecturer, Department of Rehabilitation Science, BHPI, CRP, Savar, Dhaka-1343. The purpose of this study is to find out if menopausal symptoms are affecting the women's Quality of Life & the perception of taking physiotherapy as an early intervention. 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,

Mehnaz Irin Khan

Mehnaz Irin Khan

4th professional B.Sc. in Physiotherapy

Roll: 24, Session: 2015-16, ID: 112150295

BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Recommendation from the thesis supervisor:

Shamima Islam Nipa

Ms. Shamima Islam Nipa

Lecturer

Department of Rehabilitation Science

BHPI, CRP, Savar, Dhaka

Attachment: Thesis Proposal, Questionnaire (English version), Informed consent