



Faculty of Medicine

University of Dhaka

**URINARY INCONTINENCE AND ITS ASSOCIATION WITH
ACTIVITIES OF DAILY LIVING, SEDENTARY BEHAVIOR
AND PSYCHOSOCIAL FACTORS OF WOMEN ATTENDING A
SELECTED REHABILITATION CENTER IN BANGLADESH**

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

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Session: 2017-2018

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

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Submitted by, **Marzia Alam Shupti**, for partial fulfillment of the requirements for the degree of Bachelor of Science in Physiotherapy (B. Sc. PT).



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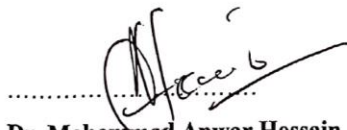
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DECLARATION

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

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LIST OF ACRONYMES

ADLs	Activity of Daily Livings
BHPI	Bangladesh Health Professions Institute
CNS	Central Nervous System
COPD	Chronic Obstructive Pulmonary Disease
CUBS	Canadian Urinary Bladder Survey
ICIQ	International Consultation on Incontinence Questionnaire
ICS	International Incontinence Society
IIQ	Incontinence Impact Questionnaire
MUI	Mixed Urinary Incontinence
SPSS	Statistical Package for Social Science
SUI	Stress Urinary Incontinence
UI	Urinary Incontinence
UUI	Urge Urinary Incontinence
WHO	World Health Organization

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ABSTRACT

Objectives: The objective of the study was to find out socio-demographic information, the association of activities of daily living, sedentary behaviour and psychosocial factors with urinary incontinence among women. **Methodology:** It was a cross-sectional study. 100 samples were conveniently selected from Musculoskeletal and Gynecology OPD of CRP, Savar, and Mirpur, based on eligible criteria. A semi structured questionnaire was used that had socio-demographic information, sedentary behavior, ADL, psychosocial impact's part. ICIQ-UI, Modified Barthel Index and IIQ questionnaire and some self-reported questions were used to determine the factors. The data were analyzed through descriptive and inferential statistics. Descriptive statistics were presented as mean, standard deviation for parametric data and frequency, percentage for non-parametric data. Interferential statistics has been performed by chi-square test has been performed for association of the variables. Binary logistic regression has been performed to predict the association among variables. P-value was set as $<.05$. **Results:** Among 100 participants, mean \pm SD of overall age was 52.04 ± 12.351 . 26% reported SUI, 37% reported UUI and 37% reported MUI. Statistical analysis showed an association between age in category and sedentary behaviors, ADL, psychosocial impacts were significant ($P < .05$). Quantity of urine leak and ADL, psychosocial impacts were significant ($P < .05$). Leaking urine that influences in daily activity and sedentary behaviors, psychosocial impacts were significant ($P < .05$). Association between duration of urine leak and sedentary behaviors, ADL and psychosocial impacts were significant ($P < .05$). A positive relationship was found on binary regression and significant association between age in the category and psychosocial impacts (travel more than 30 minutes from home (OR 3.659), participation in social activities (OR 2.767). A reverse relation has been found and was significant age in category with ADL (OR .294). A reverse relation has been found and was significant frequency with ADL in this study (OR .179). No significant association was found on regression that sedentary behaviors with any predictable variables. **Conclusion:** Urinary incontinence adversely associated with ADL, sedentary behavior and psychosocial life of women.

Key words: Urinary incontinence, sedentary behavior, ADL, psychosocial impact

1.1 Background

Urinary incontinence (UI), generally more common in women, is considered as one of the major challenges of the twenty-first century (Nipa et al. 2022). The most frequent pelvic floor problem in women is urinary incontinence, which is an involuntary urine leakage complaint. The International Society of Urine Incontinence defines urinary incontinence as "involuntary urinary incontinence that objectively causes social and hygienic problems" (Fatima et al. 2022). Despite the fact that UI is a preventable and treatable condition, its prevalence has a negative impact on women's health. According to reports, UI affects more than 200 million adults worldwide, with prevalence ranging from 5.0 to 69.0% (Yağmur and Gül 2021). Asia had the highest prevalence of urine incontinence in elderly women (45.1%), whereas America had the lowest prevalence (25.8%) (Batmani et al. 2021). Bangladesh is a southeast Asian country with one-third of the people living in poverty. Bangladeshi women are at a higher risk of urinary incontinence, the prevalence of UI was 23.7% (Islam et al. 2018).

In an Iranian study, one-third of elderly women in the city of Babol had urine incontinence and the prevalence of urinary incontinence in women over 60 years was 62.2% (Morowatisharifabad et al. 2015). The prevalence of urinary incontinence was reported to be 52% in a study conducted in middle eastern countries and has been found to rise with age (Javanmardifard et al. 2022). The total prevalence of urine incontinence in India (2018) was 46.3%, while in Russia 2018 the prevalence of incontinence among older elderly women was 40.2 (Batmani et al. 2021). This condition affects 20-30% of young women, 30-40% of middle-aged women and up to 50% of elderly women. Over 50% of menopausal women experience urine incontinence (Kołodzyńska, Zalewski and Rożek-Piechura 2019). UI before pregnancy accounted for 34% of UI during the first pregnancy and up to 83% of UI during the second pregnancy. It is reported in 42% of pregnant women and 38% of postpartum women (Rajavuori et al. 2022). According to the study, UI affects 15.3% of the women who had genital prolapse, 8.8% patients who had a urogenital infection and 34% patients who were smokers. Urinary incontinence is reported in 15.3% of the women who had pelvic organ prolapse, 21.9% were diabetics patients (Kılıç 2016).

There are three main types of UI: The most common is stress urinary incontinence (SUI) has a prevalence 49%, mixed urinary incidence (MUI) about 34% and 15% from urgency urinary incontinence (UUI). Urine storage and emptying is the physiological coordination of the bladder and urethra also interruption in the system leads to UI. Urethral hypermobility and intrinsic sphincter insufficiency are the pathophysiology of stress urine incontinence. Urgency urinary incontinence is produced by increased afferent activity from the bladder as well as faulty afferent signal processing in the brain (Wyndaele and Hashim 2017). Women can develop UI at any age due to risk factors such as diabetes, obesity, high parity, lack of physical activity, smoking, caffeine use, constipation and recurrent urinary tract infections (Yağmur and Gül 2021). Pregnancy and vaginal delivery have significant effects on pelvic floor tissues, which may result in pelvic floor dysfunction due to muscle, ligament, fascia, and peripheral nerve injury (Ahlund et al. 2013). Among chronic medical diseases, COPD was linked to an increased incidence of all types of incontinence. Smoking impairs continence by damaging the urethral sphincter mechanism through frequent coughing, lowering collagen synthesis and causing smoking-related vascular disorders (Singh 2013).

According to the Ingelman-Sundberg categorization and the International Continence Society guidelines, UI can range from mild to severe. UI are symptomatically indistinguishable, they are frequently missed at an early stage due to a lack of recognition of UI, misunderstanding of UI and embarrassment to seek medical care on the patient as well as insufficient attention on the provider to elderly women with mild and moderate UI. When UI advances to moderate or severe levels, it has a significant impact on a patient's social, psychological and physical well-being in a variety of ways (Zhang et al. 2022). Although UI is not a life-threatening disease, it can cause significant disturbance in the lives of women (Mallah et al.2014). Many people limit their social and physical activities such as exercising, shopping, dancing, attending to church and visiting friends due to discomfort caused by feeling "wet," "dirty" or "smelly." Furthermore, UI patients frequently suffer low self-esteem, physical attractiveness and body negativity (Corrado et al. 2020). Skin infections, sexual dysfunction, loss of self-esteem, reliance, depression, weakness, institutionalization, increased caregiver load and economic expense are all risks for older persons with UI (Murukesu, Singh and Shahar 2019).

1.2 Rationale

Now a day's urinary incontinence in women is a common condition in Bangladesh which has an influence on physical and psychosocial aspects of quality of life. Women are not conscious about their health and health care facilities are vulnerable situation in rural area of Bangladesh. Since urinary incontinence is one of the most common symptoms occur during pregnancy and/or after childbirth. UI significantly limits of a women's activity such as physical functioning, role limitation due to physical health, social functioning, emotional well-being, mental health and general health. Women are more vulnerable than men as because they cannot expose their all problems, ashamed of to explain her complain to family members and health professionals. But, many of our women face a lot of problem due to urinary incontinence in their lifetime. From the perspective of Bangladesh some research has shown the prevalence of UI in Bangladesh (Nipa et al. 2017), the health-related quality of life of parous women with UI in Bangladesh (Imoto et al. 2021) and the physiotherapy treatment of UI in Bangladesh (Nipa et al. 2022). But no relevant research has been conducted that any association between ADL, sedentary behavior and psychosocial impacts with UI. So, we have to know what kinds of problems they face in their daily life and how to overcome the problem for good quality of life. This research 's aim to find out how is related urinary incontinence with age, educational status, lack of awareness, sedentary lifestyle, activities of daily living, psychosocial factors etc. UI is an emerging area in perspective of Bangladesh and physiotherapists can work by gather information related to the incontinence complaints of women. Also, they can be aware of problems during treatments. However, for fulfillment the 4th year of B.Sc. in Physiotherapy I had to carried out research of my interest which accomplished the professional body of interest.

1.3 Research question

Is there any association of ADL, sedentary behavior and psychosocial factors with urinary incontinence status (quantity, amount, influence in daily activities and types of UI) of women?

1.4 Objectives

1.4.1 Primary objectives

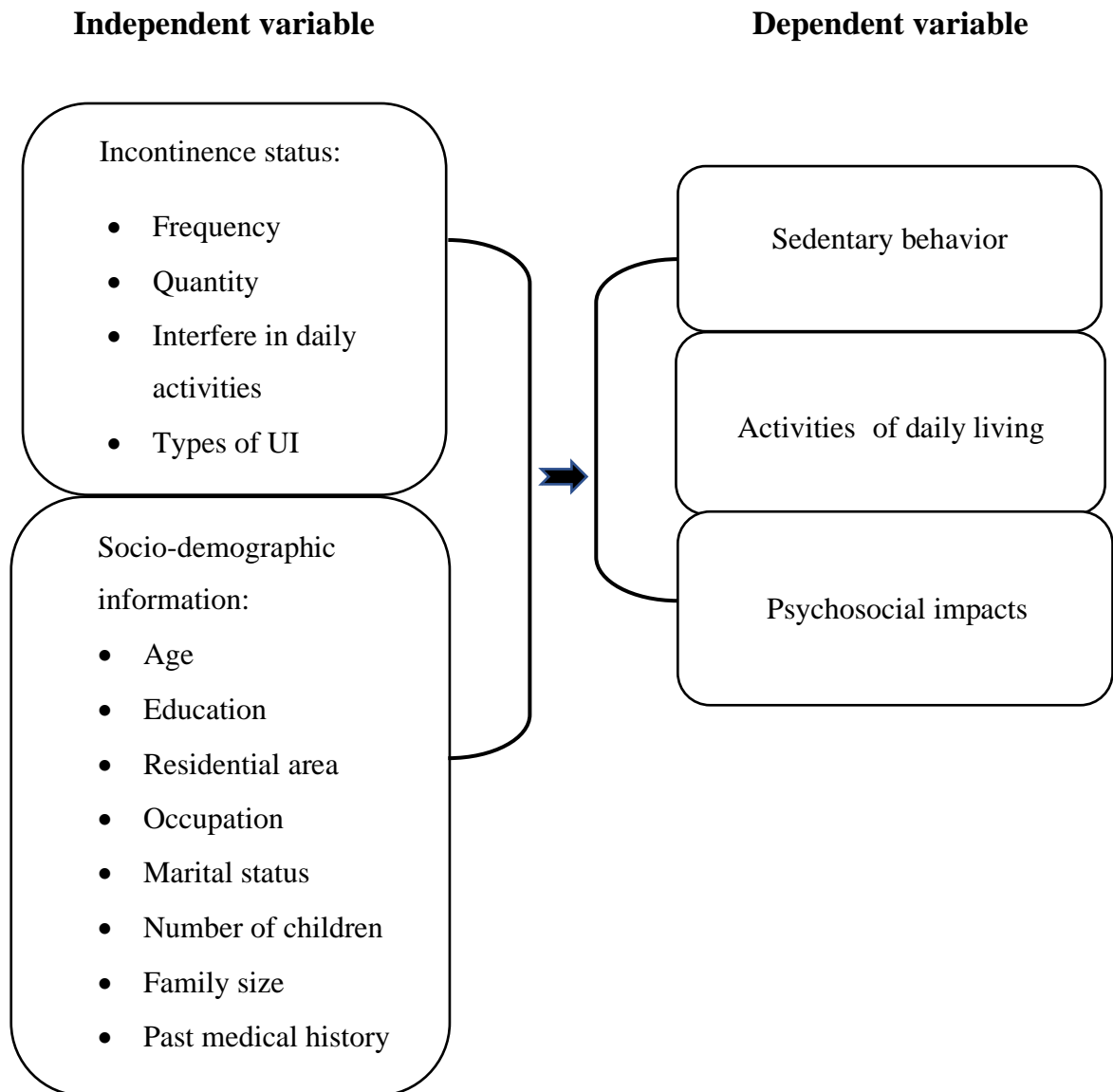
To find out

- UI related information of the patients (quantity, amount, influence in daily activities and types of UI).
- The association of activities of daily living, sedentary behaviour and psychosocial factors with urinary incontinence status among women.

1.4.2 Secondary objectives

- To determine the socio-demographic information of women's who suffered from urinary incontinence.
- To identify the status of ADL, sedentary behaviors, psychosocial factors in women with UI.
- To find out the association between patient's sociodemographic status and sedentary behaviors.
- To find out the association between patient's sociodemographic status and activities of daily living.
- To identify the association between patient's sociodemographic status and psychosocial impacts.
- To predict associated influencing factors of sedentary behaviors, ADL and psychosocial impacts among with UI.

1.5 Conceptual framework



1.6 Operational definition

Urinary incontinence: Urinary incontinence is the involuntary leakage of urine due to lack of control of urination.

Stress urinary incontinence: Stress urinary incontinence is involuntary loss of urine, with exertion or on sneezing or coughing.

Urge urinary incontinence: Urge urinary incontinence is involuntary leakage accompanied by or immediately preceded by urgency.

Mixed urinary incontinence: Mixed urinary incontinence is involuntary leakage of urine accompanied by urgency and physical exertion or on sneezing or coughing.

Sedentary behavior: Women with urinary incontinence they are engaging in sedentary behavior as sitting or lying down for a various activity, such as time spent sitting at work while using computers, watching television/ video or engaging in other leisure activities.

Activities of daily living: ADLs refers to the fundamental skills required to care for oneself independently, including all of the essential, basic self-care tasks that people need to do every day to keep themselves safe, healthy, clean and feeling good.

Psychosocial features: These are the effects of social factors on an individual's mental health and behavior.

The definition of urinary incontinence (UI) is an uncontrollable and involuntary leakage of urine via the urethra (Peroni et al. 2022). More than 423 million people worldwide suffer from urinary incontinence (UI), a disorder with a three times higher risk in women than in men. It has a substantial impact on the physical, occupational, social, psychological and private elements of sufferer's lives (Alshenqeti et al. 2022). According to the International Incontinence Society (ICS), UI is defined as an involuntary loss of urine which affects in all ages especially in fifth decade of life (Chang et al. 2017). The prevalence of urinary incontinence increases rapidly with age, particularly once adults reach the age of 65 years. To put this in context, the total prevalence of UI is greater than the total population of the United States (329 million). One-third of Bangladeshi women aged 30-59 had at least one symptomatic pelvic floor disorder; risk variables included older age, higher parity, lower socioeconomic level and self-reported diabetes (Islam et al. 2016). UI can happen every day, several times a day or simply once in a while. In young and middle-aged women, stress incontinence predominates. However, mixed incontinence (29%) is more common in older women stress incontinence is the most common (49%) across all age groups and pure urge incontinence (21%) (Begum et al. 2019).

Stress urinary incontinence is the term for urine leakage that occurs via the urethra in response to an increase in intra-abdominal pressure such as while laughing, coughing or sneezing. This form of incontinence is the most common in women, accounting for up to 65% of all female cases of UI (Agarwal and Agarwal 2017). Stress UI (SUI) occurs most often in 50–70% of all types of UI. Urethral hypermobility, which occurs when the urine sphincter itself is weak and the bladder neck and urethra are no longer supported, is the cause of stress urinary incontinence. A unique kind of stress urine incontinence known as intrinsic sphincter deficit results from injury to the urinary sphincter system. The urinary sphincter may become weak as a result of trauma, frequent gynecological procedures, neurological conditions, aging (Aoki AL. 2017). SUI is caused by weakened pelvic floor muscles and the failure of complex musculoligamentous-fascio cutaneous tissues. Childbirth, trauma, hormonal abnormalities, problems in reproductive organs abnormalities, problems in

reproductive organs and procedures are among the most common causes of the disease (Kołodzyńska, Zalewski and Rożek-Piechura 2019).

Urge incontinence (UUI) is caused by an imbalance in the inhibitory and excitatory systems' detrusor activity, resulting in a micturition dysfunction. The most common reasons are: CNS injury above the bridge, which causes detrusor overactivity while decreasing bladder capacity. The majority of instances are caused by stroke, dementia or parkinson's disease. Spinal cord at the level of S2-S4 there is a micturition center at this level. If it is damaged the patient lacks the ability to empty his or her reflexes. The bladder is autonomous in regard to the neurological system and has lost its ability to effectively cause residual urine shrinking. Urination reflex is dependent on the parasympathetic nervous system and the bladder compresses effectively but this occurs unexpectedly and involuntarily (Kołodzyńska, Zalewski and Rożek-Piechura 2019). (UUI) occurs most often in 47.4% of all types of UI (Sensoy et al. 2013). In the absence of a urinary tract infection or other evident pathology, overactive bladder syndrome is formally defined as urinary urgency with or without urgency incontinence, frequently with urinary frequency and nocturia (the desire to wake and pass urine at night). Given that urgency incontinence is defined as occurring with urgency and that any pathology or infection has been ruled out, the existence of urgency incontinence is adequate (Aoki et al. 2017).

Involuntary urine leakage associated with both physical exertion/increased intra-abdominal pressure and urinary urgency is referred to as mixed urinary incontinence. One in every three women with incontinence has mixed incontinence, according to estimates. The aetiology of mixed incontinence may be due to two independent pathologies (bladder dysfunction and an incompetent urethral sphincter mechanism) or to an incompetent sphincter that allows urine into the proximal urethral, causing both traditional stress incontinence and reflexive detrusor contractions and urgency incontinence at times. According to recent research of women with mixed urine incontinence who completed a 30-day enhanced bladder diary, stress-induced urgency incontinence was the most common pattern detected among their incontinence episodes (Welk and Baverstock 2017).

Menopause is another factor because of the decrease in female hormones. Pregnancy and vaginal delivery also suggest neuromuscular trauma to the pelvic floor muscles

(PFM) (Dedicação et al. 2009). Obesity (BMI greater than 30), high impact sports (e.g., trampolining, pole vaulting), chronic respiratory illnesses generating a chronic cough and intra-abdominal masses causing a rise in intra-abdominal pressure which leads to the development of UI (Moreno-Vecino et al. 2015). Menopause lowers the flexibility of the detrusor muscle of the ductus arteriosus and causes atrophic alterations in the pelvic floor muscles, as well as increasing urine incontinence in women (Batmani et al. 2021). The first vaginal delivery appears to be a significant risk factor for developing urine incontinence. Primiparous women were at a higher risk of postpartum incontinence. UI prior to pregnancy explained 26% of UI during the first pregnancy and up to 58% of UI during the second pregnancy (Rajavuori et al. 2022). During the first 3 months postpartum, the pooled prevalence of any postpartum incontinence was 33% in all women (Thom and Rortveit 2010). A study showed that the antenatal development of stress incontinence led to an 54% higher risk of developing stress incontinence during the year following child birth and two-fold higher risk to develop long term SUI that delivered vaginally compared to caesarian section 20% (Tähtinen et al. 2016). Anatomical structures (the size of the mother's pelvis, muscles and connective tissue) may be one rationale for offering caesarean procedure to some women. The hormonal changes (estrogen, progesterone, endocrine corticoids, relaxin) that occur during pregnancy affect the ligaments and smooth muscles which may result in greater joint mobility and increased movement in ligament-stabilized pelvic organs. As a result of anatomical impairment, urine incontinence occurs after delivery (Piculo et al. 2015).

UI is a symptom that lowers an individual's overall quality of life of older individuals by producing physical, psychological and social issues. Fear and isolation have been reported in 10% of older individuals with UI, as has a diminished quality of life in 16%. In the current study, the effect of UI on daily functioning was low in 68.2% of patients and moderate in 31%. Another study found that the impact of UI on daily life was low in 66.3% of older individuals and moderate in 26.1% (Abrams, Smith and Cotterill 2015). Individuals with urine incontinence have varying quality of life depending on the kind of incontinence; urge incontinence has a lower impact on quality of life than stress UI (Riss and Kargl 2011). UI can have a variety of effects on daily activities, social interactions and health perception; the major issues are related to social and mental wellbeing, such as sexual problems, social isolation, low self-esteem and

depression, all of which have a negative impact to the individual and their family (Bartoli, Aguzzi and Tarricone 2010).

UI has a negative influence on psychological health, impact on normal social interaction, has negative physiological effects due to hygienic problems. It increases the risk of self-imposed isolation and cognitive impairment and reduces satisfaction and quality of life. Every type of incontinence almost always has psychological effects; uncontrolled urine loss frequently causes feelings of humiliation and uncertainty. In the long run, they can cause sadness and social isolation, among other things, as well as the avoidance of social interactions. Exercise limitation or sexual dysfunction caused by UI may be more problematic in young women than in much older adults; sadness, sleep difficulties and anxiety were common in women suffering from UI regardless of age or marital status (Brazell, O'Sullivan and LaSala 2013). It also increases the danger of loneliness and diminishes pleasure with life. The embarrassment of leaking urine and being wet can cause residents to feel a loss of personal dignity (Farrés-Godayol et al. 2022).

Women with UI lose their sexual function and partner relationship, which leads to significant depression; thus, 25-50% of women with UI experience sexual dysfunction, with urge or overactive bladder being more common than stress UI (Sinclair and Ramsay 2011). Sedentary behavior activities are those that are conducted in a sitting or reclining position and require little energy (1.5 metabolic equivalents [METs]). Sedentary activity is separate from physical exercise and has emerged as a risk factor for cardiovascular disease, metabolic disease, obesity, frailty, disability, psychological problems, diabetes and overall mortality that is independent of physical activity (Jerez-Roig et al. 2020). The variables that's are: waking hours; standing duration in hours, percent of waking time standing, walking duration in hours, percent of waking time walking, absolute time upright in hours, percent of waking time upright, sit to stand transitions, sit to stand transitions per hour, absolute time sitting in hours, percent of waking time sitting, sit to stand transitions per hour, absolute time sitting in hours, percent of waking time, sitting times (Farrés-Godayol et al. 2022).

UI is highly associated with cognitive decline, inactivity, immobility and impairment in activities of daily living performance, which could contribute to a decrease in physical activity and an increase in sedentary behavior (Chu et al. 2019). In the current

study, UI had a mild influence on daily functioning in 68.2% of patients and a moderate effect in 31%. The study looked at the quality of life in UI patients and discovered that 14% of women felt embarrassed to be around other people, 10% avoided going shopping because they were afraid of incontinence and 19% avoided sports (Abrams, Smith and Cotterill 2015). One such potentially modifiable risk factor is physical activity (PA). Understanding the link between daily physical activity and PFDs is crucial for public health because, given the extent of the burden borne by women wearing PFDs, even a slight reduction in risk would affect a significant number of women (Nygaard and Shaw 2016). UI together with pressure ulcers, functional decline, falls, and delirium. Previous research in the community-dwelling elderly population has revealed that the inability to conduct activities of daily living (ADL) and instrumental activities of daily living (IADL) may be associated with new onset urine incontinence in the elderly. The majority of participants in a 1-day survey of incontinent elderly receiving home care services had one or more functional impairments (Farrés-Godayol et al. 2022).

The fear of losing urine, the smell of urine, the necessity to use sanitary pads and more frequent changes of clothing, it can create social and hygienic discomfort, as well as a low intake of water (Abrams, Smith and Cotterill 2015). Early diagnosis of people at risk of losing their autonomy is critical so that measures to prevent or delay functional decline can be launched. Several studies have investigated the association between UI and physical activity, but the majority of them used self-reported questionnaires to quantify physical activity, which are known to overstate true physical activity when compared to objective measurement. (Jerez-Roig et al. 2020). The Modified Barthel Index (MBI) assesses a person's performance on ten ADL functions. It is an empirically derived scale with demonstrated interobserver and test-retest reliability and validity that measures the patient's functional ability without the influence of family and social functioning. In both experienced and novice hands, the MBI was shown to be dependable and repeatable (Shah, Vanclay and Cooper 1989).

To conduct the research the researcher, follows the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines. The aim of the STROBE guidelines is to provide an available checklist to ensure a clear perception of what was planned and conducted in a cross-sectional study (Cuschieri 2019).

3.1 Study design:

Cross sectional study was chosen and found effective to fulfill the objectives of the study.

3.2 Study site:

The researcher collected data from the outpatient department of the musculoskeletal and Gynecological unit of the Centre for the Rehabilitation of the Paralysed (CRP) Savar and Mirpur, Bangladesh.

3.3 Study Population and sample:

The study populations were women with musculoskeletal and gynecological problems who came to the CRP physiotherapy department for physiotherapy treatment.

Among the populations, women with urinary incontinence were selected as study sample.

3.4 Methods of sample

3.4.1 Sampling Technique:

A purposive sampling technique was selected by the researcher to draw out the sample from the population.

3.4.2 Sample size calculation:

A sample is a group of people chosen from a population to participate in a study (Hicks 1999). A sample is a small portion of a population. Depending on the population and

the characteristics of the study, the sample size may be large or small. Sampling procedure for a cross sectional study done by the following equation.

$$\begin{aligned}n &= \frac{z^2 pq}{d^2} \\&= \frac{(1.96)^2 \times 0.68 \times (1-0.68)}{(0.05)^2} \\&= \frac{3.8416 \times 0.2016}{(0.05)^2} \\&= 334.36\end{aligned}$$

Where,

n = Sample size

z = Linked to 95% confidence interval (use 1.96)

p = .68 (p = prevalence & p = 68%) (Nipa et al. 2017)

q = 1- p (expected non-prevalence)

d = Margin of error at 5% (standard value of 0.05)

The actual sample size for this study was calculated as 334. As this study performs as a part of the academic research project and there are time frame limitations, the higher number of samples is difficult to achieve. From May 2023 to July 2023 researcher screened 130 patients. 12 patients excluded that they did not give any consent to record their information. Then 118 participants assessed for eligibility. From them 10 participants excluded because of they did not fulfill inclusion criteria. 108 participants eligible for this study but 5 of them did not give enough time for data collection. 103 Participants finally enrolled for the study and 3 were excluded for missing data. Finally, 100 participants analyzed for this study (Figure- 1).

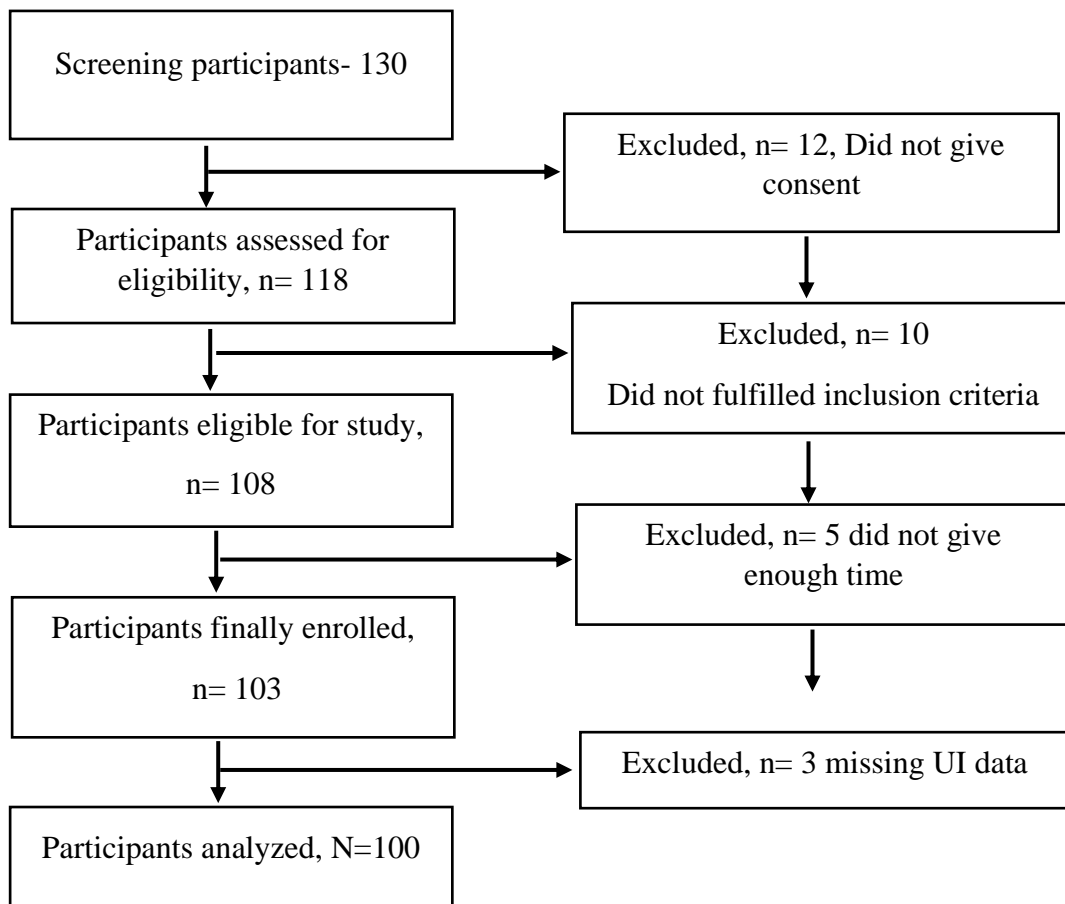


Figure 1: Participant's selection flow chart

3.5 Selection Criteria

3.5.1 Inclusion criteria:

- Female patients with incontinence according to **The International Consultation on Incontinence Questionnaire (ICIQ-UI)** was used to measure urinary symptoms (Chu et al. 2019).
- Age ranges from above 18 years female (Faleiro et al.2019).
- Patient who had not diagnosed from any mental or emotional illnesses or conditions that hamper communication (Kaşıkçı et al. 2015).
- Those who were motivated and willing to give their consent were considered as participants for this study.

3.5.2 Exclusion criteria:

- Patients diagnosed with severe disease such as cancer, neurological disease (Faleiro et al.2019).
- Explicit refusal to participate in the study or any factor preventing the interview from taking place, such as illness, personal commitments or schedule incompatibility (Reigota et al. 2016).
- Non-co-operative patients and lack of interest to participate in research activities.

3.6 Data collection & outcome measurement tools:

- **Patients personal Information and history:** Patients demographic information such as age, gender, level of education, employment position, marital status, presence of any chronic conditions, number of children, family size were collected by a questionnaire which was prepared by the researcher.
- **The International Consultation on Incontinence Questionnaire (ICIQ-UI):** Was used to measure urinary status (the frequency, quantity, kind and impact of UI on quality of life will) (Chu et al. 2019).
- **The Modified Barthel Index:** The Modified Barthel Index was used to assess limitations in daily living activities. The scale comprises of ten components, each of which is rated with numerous points related to ADL. Independence (80 points), slight dependency (70-79 points), moderate dependence (31-69 points), and severe dependence (0-30 points) were the categories (Shah, Vanclay and Cooper 1989) (Farrés-Godayol et al. 2022).
- **Self-reported questionnaires for sedentary behavior:** Several studies have investigated the association between UI and sedentary behavior, but the majority of them used self-reported questionnaires to quantify physical activity (Jerez-Roigt al. 2020).
- **The Incontinence Impact Questionnaire:** Assesses the impact of incontinence on one's ability to participate and found significant although modest relationships between psychosocial impact scores. The IIQ-7 is a seven-point questionnaire designed specifically for UI to improve quality of life. The higher the score, the greater the negative impact (Wyman, Harkins and Fantl 1990).

- An information sheet, a consent form and also used some other necessary materials are used like pen, pencil, white paper, clipboard, eraser, file, notebook and laptop.

3.7 Data collection period:

The study period was from 1st May 2023 to 31th July 2023.

3.8 Statistical test:

3.8.1 Determination of the nature of data

The variables were determined as nominal, ordinal, interval, and ratio data and considered their parametric or non-parametric properties (table- 1) based on data type and standard procedure (Hicks, 1999).

Table- 1: Data category

Variables	Descriptions	Data type	Data distribution
Age overall	Average age (mean± SD)	Ratio	Parametric
Age in category	20-29 30-39 40-49 50-59 60-69 70-79	Ordinal	Non-parametric
Educational level	No formal schooling Primary S.S.C completed H.S.C completed Graduation Post-graduation	Ordinal	Non-parametric
Occupation	House wife Service holder	Nominal	Non-parametric
Marital status	Married Unmarried	Nominal	Non-parametric

	Widow Divorce		
Number of children	0 1 2 3 4 5 6 9	Ratio	Parametric
Family size	Small family Large family	Nominal	Non-parametric
Residential area	Rural Urban	Nominal	Non-parametric
Past medical history	DM HTN Others More than one condition None	Nominal	Non-parametric
Frequency	About once a week or less often Two or three times a week About once a day Several times a day	Ordinal	Non- parametric
Quantity	A small amount A moderate amount A large amount	Ordinal	Non-parametric
Influence in activity	6 7 8 9 10	Ratio	Parametric
Duration	Leaks before go to the toilet	Ordinal	Non-parametric

	Leaks when cough or sneeze Mixed		
Self-reported watching TV/video	<1 hour/day 1-2 hours/day 3-4 hours/day ≥5 hour/day	Ordinal	Non-parametric
Sedentary behaviour in daily activities	Sitting and not walking very much	Ordinal	Non-parametric
Personal hygiene	Moderate help Minimal help	Ordinal	Non-parametric
Bathing self	Moderate help Minimal help Fully independent	Ordinal	Non-parametric
Feeding	Moderate help Minimal help Fully independent	Ordinal	Non-parametric
Toilet	Moderate help Minimal help Fully independent	Ordinal	Non-parametric
Stair climbing	Moderate help Minimal help Fully independent	Ordinal	Non-parametric
Dressing	Moderate help Minimal help Fully independent	Ordinal	Non-parametric
Bowel control	Minimal help Fully independent	Ordinal	Non-parametric
Bladder control	Moderate help Minimal help	Ordinal	Non-parametric
Ambulation	Moderate help Minimal help Fully independent	Ordinal	Non-parametric

Chair/bed transfer	Fully independent	Ordinal	Non-parametric
Total Modified Barthel Index score	Independence Slight dependence Moderate dependence	Ordinal	Non-parametric
Ability to do household chores	Slightly Moderate Greatly	Ordinal	Non-parametric
Physical recreation	Not at all Slightly Moderate	Ordinal	Non-parametric
Entertainment activities	Not at all Slightly Moderate	Ordinal	Non-parametric
Travel more than 30 minutes	Moderate Greatly	Ordinal	Non-parametric
Participation in social activities	Not at all Slightly Moderate Greatly	Ordinal	Non-parametric
Emotional health	Not at all Slightly Moderate Greatly	Ordinal	Non-parametric
Feeling frustrated	Not at all Slightly Moderate Greatly	Ordinal	Non-parametric

3.8.2. Data analysis procedure:

Data was analyzed through Statistical package of social science (SPSS) Version 25. Microsoft Excel 22 worksheet was used to create the most of the graphs and charts. Then based on parametric or non-parametric features, data was analyzed through descriptive and inferential statistics.

3.8.3 Determination of statistical test:

To determine the desired outcome, a descriptive and inferential statistical analysis has been carried out. Based on parametric or non-parametric features, the statistical analysis has been carried out as descriptive and inferential statistics. In the descriptive part, in case of parametric data the central tendency and the measure of dispersion was presented through mean and standard deviation. The categorical data was presented as frequency and percentage using a variety of bar graphs, pie chart and tables. Chi-square test and binary regression were employed in the inferential portion to determine the relationship between various dependent and independent variables.

In inferential statistics, Chi square test was done to find out the associations between sociodemographic characteristics and urinary incontinence with sedentary behaviors, activities of daily living and psychosocial impacts of urinary incontinence.

Binary regression was employed in the inferential portion to determine the association between predictor variables (sociodemographic status and UI related status) was the predictor variables with dependent variables (sedentary behaviors, ADL and psychosocial impacts).

Chi-square test:

Test assumptions-

1. Both variables are categorical.
2. Two or more categories (groups) for each variable.
3. All observations are independent.
4. Expected value of cells should be 5 or greater in at least 80% of cells.

Regression:

Test assumptions-

1. Dependent variable should be measured on a dichotomous scale.
2. One or more independent variables, which can be either continuous or categorical.
3. Little or no multicollinearity between the predictor/explanatory variables.

3.9 Rigor of the study:

A rigorous manner was maintained to conduct the study during the data collection and data analysis the researcher always tried not to influence the process by his own perspectives, values and biases. During the data collection and data analysis the researcher always tried not to influence the process by his own perspectives, values and biases. During the data collection, no leading questions was asked and judgments were avoided. When conducting the study, the researcher took help from the respected supervisor or expert to avoid biases when needed. The participant information was coded accurately and checked by the supervisor to eliminate any possible errors. In the result section, the outcome was not influenced by showing any personal interpretation. The other researchers can use the results in their related area.

3.10 Informed consent:

The subjects were first informed of the study's aims and objectives in a descriptive verbal manner. The consent form was given to the subject, and it was made certain that they understood it completely. The subjects had the option to withdraw from the study at any time. The participants were assured that their names and addresses would not be used. The participants were also assured that their information could be shared in any normal presentation, seminar, or writing, but that they would not be identified. The researcher informed the participants that the outcome would not be harmful to them. To protect the confidentiality of the participants' information, no information has been shared with anyone other than the research supervisor. The researcher was always available to answer any additional questions about the study.

3.11 Ethical consideration:

The researcher has followed the Bangladesh Medical Research Council (BMRC) guideline & WHO research guidelines. A research proposal was submitted to the

physiotherapy department of BHPI (CRP/BHPI/IRB/03/2023/712) for approval and the proposal was approved by the faculty members and gave permission initially from the supervisor of the research project and the course coordinator before conducting the study. The study protocol was presented to BHPI for the Institutional Review Board (IRB) for approval as per the existing rules. Permission from the Department Head of Physiotherapy, individual in charge of the department of CRP and from respected supervisor was taken to conduct the study. Verbal consent was taken from the participants informing them before starting the interviews. The researcher was eligible to do the study after knowing the academic and clinical rules of doing the study about what should be done and what should not.

4.1 Baseline Characteristics:

Baseline characteristics are the socio-demographic information and UI status such as (frequency, quantity, influence and duration) of participants.

Table-2: Descriptive analysis of baseline characteristics of the participants (socio-demographic):

Characteristics	Percentage %	Frequency (n)
Age overall (Mean \pm SD)	52.04 \pm 12.351	
Age category		
20-29	4	4
30-39	17	17
40-49	24	24
50-59	26	26
60-69	24	24
70-79	5	5
Education		
No schooling	1	1
Primary	10	10
S.S.C complete	19	19
H.S.C complete	27	27
Graduation	29	29
Post-graduation	14	14
Occupation		
House wife	82	82
Service holder	18	18
Marital status		
Married	83	83
Unmarried	1	1
Widow	14	14
Divorce	2	2

Number of children		
0	6	6
1	12	12
2	33	33
3	26	26
4	13	13
5	7	7
6	2	2
9	1	1
Family size		
Small family	76	76
Large family	24	24
Residential area		
Rural	96	96
Urban	4	4
Past medical history		
DM	4	4
HTN	26	26
Others	5	5
More than one condition	42	42
None	23	23

Among 100 participants age overall (Mean \pm SD) 52.04 ± 12.351 . Overall, 1% (n = 1) of participants had no formal schooling, 10% (n = 10) completed primary school, 19% (n = 19) completed S.S.C., 27% (n = 27) completed H.S.C., the majority of the respondents 29% (n = 29) completed graduation and 14% (n = 14) completed post-graduation. A large percentage of respondents 82% (n= 82) in the study were housewives with service holders accounting for 18% (n= 18). In the whole sample, 83% were married, 1% were single, 14% were widowed and 2% were divorced. Among all participants, 12% had one child, 33% had two children, 26% had three children, 13% had four children, 7% had five children, 2% had six children, 1% had nine children and six participants had no children. The majority of respondents 76% (n = 76) had a small family, whereas 24% (n = 24) had a large family. 4% of the individuals had diabetes,

26% had hypertension, 42% had multiple conditions, 5% had other issues such as bronchial asthma, hyperthyroidism, allergies and so on and 23% had no medical issues.

4.1.1 Age of the participants

The study was conducted with 100 participants. The majority of the respondents 4% (n=4) is in 20-29 years of age, 17% (n=17) is in 30-39 years of age, 24% (n=24) is in 40-49 years of age, 26% (n=26) is in 50-59 years of age, 24% (n=24) is in 60-69 years of age, 5% (n=5) is in 70-79 years of age.

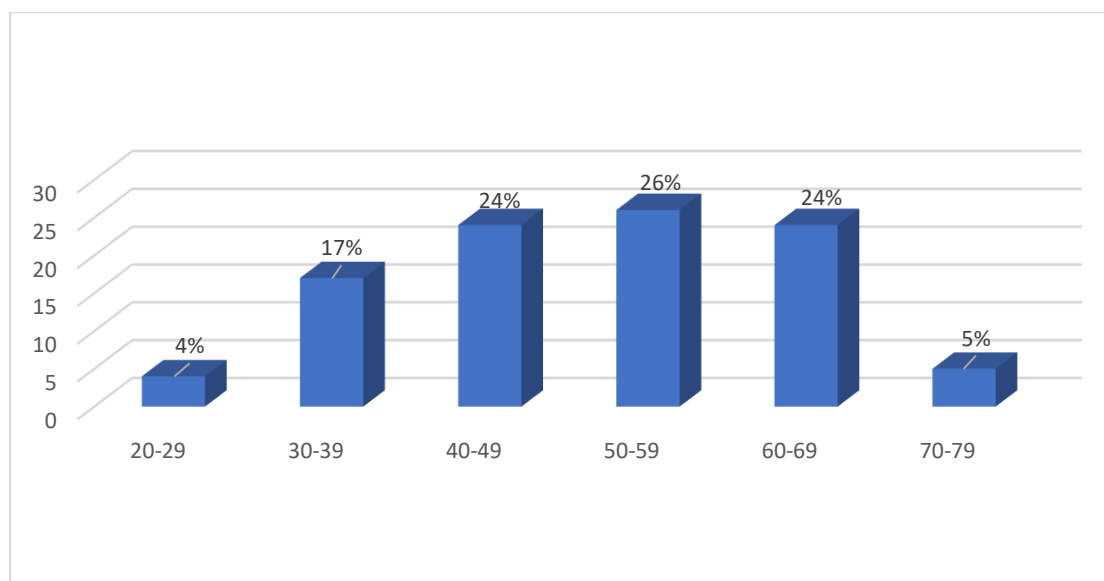


Figure-2: Age range of the participants

4.2 Incontinence Status

Table- 3: Descriptive analysis of baseline characteristics of the sample (UI status):

Characteristics	Percentage %	Frequency (n)
Frequency		
Once a week or less often	25	25
Two or three times a week	46	46
Once a day	23	23
Several times	6	6
Quantity		
Small	30	30
Moderate	64	64
Large	6	6

Influence in daily activity		
6	3	3
7	24	24
8	40	40
9	25	25
10	8	8
Duration		
Leaks before get to the toilet	26	26
Leaks when cough or sneeze	37	37
Mixed	37	37

The majority of cases, 25% (n = 25), faced UI frequency once a week or less, while 46% (n = 25) cases experienced UI frequency two or three times per week, 23% (n = 25) of scenarios had a frequency of once per day and 6% (n = 25) had a frequency many times per day. A small amount of urine leaks in 30% (n= 30) cases, a moderate amount of urine leaks in n = 64 (64%) cases and a large amount of urine leaks in n = 6 (6%) cases. The majority of urinary incontinence patients claim that urine leaks interfere. Out of 10, 3% mark 6, 24% mark 7, 40% mark 8, 25% mark 9 and 8% mark 10 with their regular activities. 26% reporting leakage of urine before going to the toilet in urgency, 37% reporting leakage of urine while coughing or sneezing and 37% reporting leakage of urine both before going to the toilet and during coughing or sneezing.

4.3 Sedentary behavior:

4.3.1 Self-reported watching TV/video:

Overall, participants are passing their sedentary time by watching TV or video. 12% watch <1 hour/day, 25% watch 1-2 hours/day, 51% watch 3-4 hours/day and 12% watch ≥ 5 hours/day.

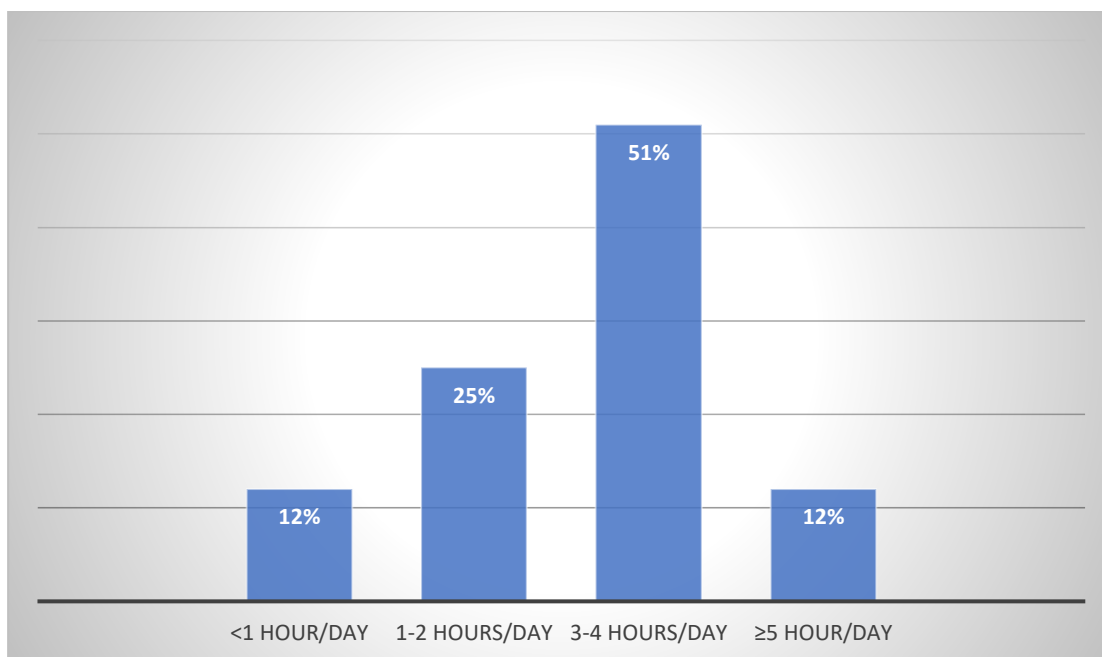


Figure-3: Self-reported watching TV/video of the participants

4.3.2 Sedentary behaviour in daily activities:

Most of the urinary incontinence patient about 100% sitting and not walking very much.

4.4 Activities of daily living:

Table- 4: Descriptive analysis of activities of daily living of the sample:

Characteristics	Total number	Percentage %
Personal hygiene		
Moderate help required	70	70
Minimal help required	30	30
Bathing self		
Moderate help	29	29
Minimal help	36	36
Fully independent	36	36
Feeding		
Moderate help	11	11
Minimal help	40	40
Fully independent	49	49

Toilet		
Moderate help	23	23
Minimal help	43	43
Fully independent	34	34
Stair climbing		
Moderate help	8	8
Minimal help	14	14
Fully independent	78	78
Dressing		
Moderate help	22	22
Minimal help	65	65
Fully independent	13	13
Bowel control		
Minimal help	18	18
Fully independent	82	82
Bladder control		
Moderate help	30	30
Minimal help	70	70
Ambulation		
Moderate help	8	8
Minimal help	14	14
Fully independent	78	78
Chair/bed transfer		
Fully independent	100	100
Total score		
Independence	78	78
Slight dependency	16	16
Moderate dependence	6	6

In this study, activities of daily living in 100 participants were determined by the total Modified Barthel Index score of ADL: 78% independence, 16% slight dependency, and 6% moderate dependence.

4.5 Psychosocial impacts:

Table- 5: Descriptive analysis of psychosocial impacts of the sample:

Characteristics	Percentage %	Frequency (n)
Ability to do household chores		
Slightly	21	21
Moderate	75	75
Greatly	4	4
Physical recreation		
Not at all	1	1
Slightly	62	62
Moderate	37	37
Entertainment activities		
Not at all	19	19
Slightly	65	65
Moderate	16	16
Ability to travel more than thirty minutes from home		
Moderate	20	20
Greatly	80	80
Participation in social activities		
Not at all	26	26
Slightly	45	45
Moderate	24	24
Greatly	5	5
Emotional health		
Not at all	4	4
Slightly	45	45
Moderately	42	42
Greatly	9	9

Feeling frustrated

Not at all	4	4
Slightly	31	31
Moderate	40	40
Greatly	27	27

In this study, of the 100 participants, 21% had a slight effect, 75% had a moderate effect, and 4% had a great effect on their ability to do household chores. For physical recreation, 1% with UI has no effect, whereas 62% has a slight effect, and 37% has a moderate effect. Overall, 19% with UI have no effect, 65% have a slight effect, and 16% have a moderate effect on entertaining activities. Among the participants, 20% had a moderate effect and 80% had a great effect on their ability to travel. In the overall sample of participants, 4% (n = 4) with UI have no effect, 45% (n = 45) have a slight effect, 42% (n = 42) have a moderate effect, and 9% (n = 9) have a great effect on emotional health. In this research, patients with urinary incontinence felt frustrated: 31% (n = 31) had a slight effect, whereas 40% (n = 40) had a moderate effect, 27% (n = 27) had a great effect, and 4% (n = 4).

4.6 Association

To analyse the data Chi-square was done. The test value and P-value are shown below on the table:

Table 6: Association between sociodemographic characteristics and sedentary behaviors, activities of daily living and psychosocial impacts of urinary incontinence:

Independent variable		Dependent variable					
Sociodemographic Characteristics	Sedentary behaviour		ADL		Psychosocial impact		
	Watching tv/video		ADL score				
	x ²	α	x ²	α	x ²	α	
Age in category	.630 ^a	.002*	33.600 ^b	.001*	House hold chores	28.212 ^c	.005*
					Physical recreation	32.280 ^c	.001*
					Entertainment activities	16.694 ^c	.161
					Travel more than 30 minutes	34.073 ^c	.000*
					Participation in social activities	34.073 ^c	.011*
					Emotional health	10.486 ^c	.915
					Feeling frustrated	14.370 ^c	.705
Educational level	12.978 ^a	.371	15.334 ^b	.053*	House hold chores	12.042 ^c	.149
					Physical recreation	11.067 ^c	.198
					Entertainment activities	10.364 ^c	.240
					Travel more than 30 minutes	11.378 ^c	.023*

					Participation in social activities	13.406 ^c	.340
					Emotional health	10.702 ^c	.555
					Feeling frustrated	13.263 ^c	.350
Occupation	.666 ^a	.881	2.532 ^b	.282	House hold chores	1.278 ^c	.528
					Physical recreation	.243 ^c	.885
					Entertainment activities	.567 ^c	.753
					Travel more than 30 minutes	.152 ^c	.696
					Participation in social activities	2.959 ^c	.398
					Emotional health	3.428 ^c	.330
					Feeling frustrated	1.856 ^c	.603
Marital status	15.322 ^a	.082	18.52 ^b	.005*	House hold chores	19.125 ^c	.004*
					Physical recreation	7.704 ^c	.261
					Entertainment activities	14.102 ^c	.029*
					Travel more than 30 minutes	14.415 ^c	.002*
					Participation in social activities	9.883 ^c	.360
					Emotional health	6.479 ^c	.691
					Feeling frustrated	6.958 ^c	.642
Number of children	45.089 ^a	.002*	22.066 ^b	.077	House hold chores	13.178 ^c	.513
					Physical recreation	21.157 ^c	.098

					Entertainment activities	23.241 ^c	.056*
					Travel more than 30 minutes	13.254 ^c	.066
					Participation in social activities	27.209 ^c	.134
					Emotional health	27.054 ^c	.169
					Feeling frustrated	21.865 ^c	.407
Family size	.586 ^a	.900	3.205 ^b	.201	House hold chores	.316 ^c	.854
					Physical recreation	3.237 ^c	.198
					Entertainment activities	.733 ^c	.693
					Travel more than 30 minutes	.014 ^c	.907
					Participation in social activities	3.959 ^c	.266
					Emotional health	.511 ^c	.917
					Feeling frustrated	.844 ^c	.839
Residential area	1.471 ^a	.689	.466 ^b	.792	House hold chores	1.389 ^c	.499
					Physical recreation	2.554 ^c	.279
					Entertainment activities	.810 ^c	.667
					Travel more than 30 minutes	.065 ^c	.799
					Participation in social activities	2.155 ^c	.541
					Emotional health	5.279 ^c	.152
					Feeling frustrated	12.298 ^c	.006*

Past medical history	20.593 ^a	.057*	5.186 ^b	.738	House hold chores	11.204 ^c	.190
					Physical recreation	4.996 ^c	.758
					Entertainment activities	5.309 ^c	.724
					Travel more than 30 minutes	5.103 ^c	.277
					Participation in social activities	16.879 ^c	.154
					Emotional health	5.705 ^c	.930
					Feeling frustrated	6.050 ^c	.914

^a = Sedentary behavior

^b = Activities of daily living

^c = Psychosocial impacts

The association between age in category and self-watching TV/video, ADL, ability to do household chores, physical recreation, travel more than 30 minutes, and participation in social activities ($P = .002$), ($P = .001$), ($P = .005$), ($P = .001$) and ($P = .011$) was significant. There is an association between educational level and ADL: travel 30 minutes from home ($P = .053$) and ($P = .023$). The association between marital status and ADL, ability to do household chores, entertainment activities, and travel 30 minutes from home ($P = .005$), ($P = .004$), ($P = .029$) and ($P = .002$) were significant. The association between the number of children and self-watching TV or video and entertainment activities ($P = .002$) and ($P = .056$) was significant. There is an association between residential area and feeling frustrated ($P = .006$). The association between past medical history and self-watching TV or video ($P = .057$) was significant.

Table 7: Association between incontinence status and sedentary behaviors, activities of daily living and psychosocial impacts of urinary incontinence

Independent variable				Dependent variable			
UI Status	Sedentary behaviour		ADL		Psychosocial impact		
	Self-watching Tv/video		ADL score				
	x ²	α	x ²	α		x ²	α
Frequency	16.059 ^a	.066	18.469 ^b	.005*	House hold chores	7.206 ^c	.302
					Physical recreation	12.097 ^c	.060
					Entertainment activities	5.312 ^c	.504
					Travel more than 30 minutes	20.335 ^c	.000*
					Participation in social activities	15.248 ^c	.084
					Emotional health	15.436 ^c	.080
					Feeling frustrated	19.064 ^c	.025*
Quantity	4.928 ^a	.553	3.140 ^b	.535	House hold chores	5.448 ^c	.244
					Physical recreation	3.320 ^c	.506
					Entertainment activities	1.561 ^c	.816
					Travel more than 30 minutes	4.349 ^c	.114
					Participation in social activities	7.013 ^c	.320
					Emotional health	9.048 ^c	.171

					Feeling frustrated	7.505 ^c	.277
Influence in daily activity	24.366 ^a	.018*	15.355 ^b	.053*	House hold chores	12.023 ^c	.150
					Physical recreation	30.883 ^c	.000*
					Entertainment activities	12.012 ^c	.151
					Travel more than 30 minutes	22.125 ^c	.000*
					Participation in social activities	15.183 ^c	.232
					Emotional health	23.406 ^c	.024*
					Feeling frustrated	17.422 ^c	.134
Duration	14.702 ^a	.023*	11.136 ^b	.025*	House hold chores	1.891 ^c	.756
					Physical recreation	3.935 ^c	.415
					Entertainment activities	10.913 ^c	.028*
					Travel more than 30 minutes	8.914 ^c	.012*
					Participation in social activities	4.355 ^c	.629
					Emotional health	5.884 ^c	.436
					Feeling frustrated	8.110 ^c	.230

^a = Sedentary behavior

^b = Activities of daily living

^c = Psychosocial impacts

The association between frequency of urine leaks and activities of daily living, ability to travel 30 minutes from home, and feeling frustrated ($P = .005$), ($P = .000$) and ($P = .025$) were significant. There is an association between leaking urine that influences daily activity, self-watching TV or video, ADL, physical recreation, travel 30 minutes from home, and emotional health ($P = .018$), ($P = .053$), ($P = .000$), and ($P = .024$). The association between duration of urine leak and self-watching TV or video, ADL, entertainment activities, and travel 30 minutes from home ($P = .023$), ($P = .025$), ($P = .028$) and ($P = .012$) was significant.

4.7 Regression

Regression of data was done to evaluate the association between predictor variables with dependent variables. Here, the sociodemographic status was the predictor variables and sedentary behaviors, ADL and psychosocial impacts were the dependent variables.

Table 8: Binary regression of sedentary behaviors with predictor variables

Predictor variables	Sedentary behaviours (Self-watching TV/ video)				
	Nagelkerke <i>R</i> ²	B	P-value	OR	95% CI (lower, upper)
Age in category	.008	.353	.463	1.423	.555 3.648
Number of children	.002	.178	.406	1.195	.472 3.024
Past medical history	.000	-.039	.937	.364	2.542 3.052
Frequency	.000	.011	.984	1.011	.368 2.776
Influence	.009	.375	.446	1.455	.555 3.811
Duration	.050	.875	.067	2.400	.941 6.118

Table 9: Binary regression of activities of daily living (ADL total score) with predictor variables

Predictor variables	Activities of daily living (ADL total score)				
	Nagelkerke R^2	B	P-value	OR	95% CI (lower, upper)
Age in category	.082	-1.224	.028*	.294	.099, .876
Educational level	.026	-.753	.212	.471	.144, 1.538
Marital status	.111	-1.609	.005*	.200	.064, .623
Frequency	.167	-1.722	.001*	.179	.065, .492
Quantity	.002	-.197	.694	.821	.309, 2.186
Duration	.051	-.892	.070	.410	.165, 1.077

A positive relationship was found and there was a significant ($P = <.05$) association between age in the category and the ADL score ($P = .032$). A reverse relation has been found and was significant ($P = <.05$) age in category with total ADL score ($\beta = -1.224$). A reverse relation has been found and was significant ($P = <.05$) between marital status and ADL total score ($\beta = -1.609$). A reverse relation has been found and was significant ($P = <.05$) with ADL total score ($\beta = -1.722$).

Table 10: Binary regression of psychosocial impacts with predictor variables

Predictor variables	Psychosocial impacts	Nagelkerke R^2	β	P-value	OR	95% CI (lower, upper)
Age in category	Ability to do house hold chores	.000	.050	.950	1.051	.223, 4.963
	Physical recreation	.025	-.565	.175	.568	.251, 1.286
	Travel more than 30 minutes	.084	1.297	.032*	3.659	1.118, 11.976
	Participation in social activities	.025	1.018	.014*	2.767	1.229, 6.229
Educational level	Ability to travel more than 30 minutes	.035	.925	.169	2.521	.675, 9.423
Marital status	Ability to do house hold chores	.063	-18.80	.999	.000	.000
	Travel more than 30 minutes	.100	1.540	.009*	4.667	1.465, 14.909
	Entertainment activities	.049	1.054	.058*	2.868	.964, 8.536
Number of children	Entertainment activities	.034	.681	.116	1.977	.844, 4.627
Frequency	Travel more than 30 minutes	.185	1.865	.001*	6.454	2.203,

						18.903
Quantity	Feeling frustration	.034	.681	.116	1.977	.844, 4.627
	Travel more than 30 minutes	.001	-.108	.835	.898	.326, 2.475
	Physical recreation	.025	.579	.180	1.784	.765, 4.164
Influence in daily activity	Travel more than 30 minutes	.001	-.108	.835	.898	.326, 2.475
	Physical recreation	.025	.579	.180	1.784	.765, 4.164
Duration	Travel more than 30 minutes	.067	1.070	.043*	2.941	1.035, 8.208

A positive relationship was found and there was a significant ($P = <.05$) association between age in the category and travel lasting more than 30 minutes ($P = .032$). A positive relationship was found and there was a significant ($P = <.05$) association between age in the category and participation in social activities ($P = .014$). There is a positive association between marital status and travel time greater than 30 minutes ($P = .009$). Marital status and entertainment activities have a significant positive relationship ($P = .058$). There was a positive relation between frequency of urine leak and ability to travel 30 minutes ($P = .001$). The association between duration of urine leak and travel time of 30 minutes ($P = .043$) was positively related.

The aim of the study was to find out the association of ADL, sedentary behavior and psychosocial factors with urinary incontinence among women in. Majority of the cases in this study were experienced frequency of UI about once a week or less often is 25%, 46% were experienced frequency of UI two or three times a week, 23% once a day, 6% several a day. Another study there 2.9% has never urine leak, 28.57% (n=10) has once a week or less often leak urine, 22.9% (n= 8) has two times a day, 25.7% (n=9) three times a day and 20% (n= 7) has leak urine more than four times in a day (Chu et al. 2019). In this study about 26 % patient had UUI, 37% patients had SUI and 37% of patients had MUI. Another study in Bangladesh the researcher found among 1590 participants that stress UI was 5.4% (n= 86), urgency UI 11.3% (n= 179) and mixed UI 7.0% (n= 111) (Islam et al. 2018).

In this study, the association between age in category and sedentary behaviors (self-watching TV/video), ADL and psychosocial impacts (ability to do house hold chores, physical recreation, travel more than 30 minutes and participation in social activities) was significant ($P < .05$). The impact of condition on daily life activities and sedentary behaviors was mild in 46.5% of cases, moderate for 29.3% of cases and severe in 24.1% of cases and the condition was associated with functional impairment and sedentary behavior ($p < 0.001$) (Roig et al. 2015). In additional study they found that UI significantly with increasing age ($P = 0.01$) (AlQuaiz et al. 2023). In this study, the association between marital status and ADL, psychosocial impacts ($P = <.05$) were significant. On the other hand, no significant association was observed with marital status, income and occupation ($p > 0.05$) was found (AlQuaiz et al. 2023). The association between the number of children and sedentary behaviors (self-watching TV/video) and psychosocial impacts (ability to do household chores, entertainment activities and travel more than 30 minutes from home) ($P = <.05$) was significant in this study. In additional study, researcher found that UI significantly associated with number of children ($P = 0.020$). Women who had more than two children were more likely to have stress UI ($P = 0.009$) and urgency UI ($P = 0.006$) compared with women having one or two children (Jerez-Roig et al. 2016). Islam et al. (2018) showed that diabetes associated with mixed UI ($P < 0.0001$). However, 75.3% (n=55) Alzheimer

disease in UI patients was significantly associated ($P= 0.002$) (Jerez-Roig et al. 2016). A significant association between frequency of urine leaks and ADLs, psychosocial impacts (ability to travel 30 minutes from home and feeling frustrated) ($P= <.05$). The condition UI was associated with functional impairment ($p < 0.001$) (Roig, Souza and Lima 2015). Urinary incontinence and its association with psychosocial impacts significant association where ($P= <.001$) (Fialkow et al. 2003).

This study showed that, 4% ($n=4$) was in 20-29 years old, 17% ($n=17$) was 30-39 years old, 24% ($n=24$) is in 40-49 years old, 26% ($n=26$) is in 50-59 years of age, 24% ($n=24$) is in 60-69 years of age, 5% ($n=5$) is in 70-79 years. Another study there 60-64 years 26.6%, 65-69 years 22.7%, 70-74 years 18.7%, 10.7% in 75-79 years old and 13.3% in 80-84 years old patient has UI (Jerez-Roig et al. 2020). In this study 1% ($n= 1$) of participants were no formal schooling, 10% ($n=10$) of participants were completed primary level, 19% ($n= 19$) of participants were completed S.S.C, 27% ($n= 27$) of participants were completed H.S.C, majority of the respondents 29% ($n= 29$) completed their graduation and 14% ($n=14$) are completed their post- graduation. Women with urinary incontinence 63.6% ($n= 696$) were illiterate, literate 17.6% ($n=193$), primary school 16.4% ($n=179$), secondary school 2.4% ($n=26$). From the participants 4% were suffering from DM, 26% of people had hypertension, 42% had diabetes, hypertension and multiple co-morbidities, 5% had others problem such as bronchial asthma, hyperthyroidism, allergy etc and 23% had no medical problem. Women who reported two or more UTIs in the previous year had a 50% increased incidence of urge incontinence, 13% of them were diabetic and 30.5% were hypertensive (Biswas et al. 2017) and Islam et al. (2018) showed that 75.3% ($n=55$) alzheimer disease in UI patients (Jerez-Roig et al. 2016).

Women with urinary incontinence pass their sedentary time by watching TV or video. 12% watching <1 hour/day, 25% watching 1-2 hours/day, 51% watching 3-4 hours/day and 12% watching ≥ 5 hour/day. Most of the urinary incontinence patient about 100% sitting and not walking very much. According a study there 10.9% ($n= 50$) watching TV/video watching <1 hour/day, 37.5% ($n= 170$) watching 1-2 hours/day, 30.7% ($n= 141$) watching 3-4 hours/day and 15% ($n= 69$) watching ≥ 5 hour/day. There 25.5% ($n=117$) sitting and not walking very much, 59.5% ($n= 273$) walking or standing quite a lot and 15% ($n=69$) do heavy work, climbing etc (Jerez-Roig et al. 2020).

In this study, activities of daily living in 100 participants were determined: 78% independence, 16% slight dependency and 6% moderate dependence. In a study, functional capacity was defined as independence at 46.2% (n = 66), slight dependency at 14% (n = 20), moderate dependency at 18.9% (n = 27) and severe dependency at 21.0% (n = 30) (Roig, Souza and Lima 2015).

In this study, in total 100 participants there 21% has slightly affect, 75% has moderately affect, 4% has greatly effect on ability to do household chores. For traveling there were 20% has moderately affect, 80% has greatly effect on ability to travel. In this study, the participants participate in social activities outside home there 26% with UI has no affect, 45% has slightly affect, 24% has moderately affect, 5% has greatly affect. 4% (n=4) with UI has no affect, 45% has slightly affect, 42% has moderately affect, 9% has greatly effects on emotional health. Patients felling frustration 31% had slightly affect, 40% had moderately affect, 27% had greatly affect and had no effect in 4%. In AlQuaiz et al. (2023) stated that ability to do household chores, which effects not at all in 74.2% (n = 715), slightly 16.1% (n = 155), moderately 6.5% (n = 63) and greatly 3.1% (n = 30) of the participants. Traveling more than 30 minutes by car or bus from home has no effect on 53.4% (n=514), slightly effects on 17.2% (n=166), moderately effects on 15.9% (n=153) and greatly effects on 13.5% (n=130). Socialize outside the home, which effects not at all in 61.2% (n = 589), slightly in 22.4% (n = 217), moderately in 11.7% (n = 113) and greatly in 4.7% (n = 45). Emotional health, which effects not at all in 68.4% (n = 659), slightly in 20.4% (n = 196), moderately in 7.5% (n = 72) and greatly in 3.7% (n = 36). Feeling frustrated of which 77.6% (n = 747) have no effects, slightly affects 17.1% (n = 165), moderately affects 4.2% (n = 40) and greatly affects 1.1% (n = 11).

A positive relationship was found on binary regression in this study ($P = <.05$) association between age in the category and psychosocial impacts (travel more than 30 minutes from home (OR 3.659, 95% CI (1.118, 11.976), $P = .032$), participation in social activities (OR 2.767, 95% CI (1.229, 6.229), $P = .014$). Psychosocial impacts correlated positively significant with increasing age ($r = 0.08$, OR 2.93 (2.17, 3.95), $P = 0.01$) and number of children ($r = 0.09$, OR 1.66 (1.21, 2.28), $P = 0.008$) (AlQuaiz et al. 2023). A reverse relation ($\beta = -1.224$) has been found in age in category with ADL (OR .294, 95% CI (.099, .876), $P = .028$). Logistic regression analysis for UI with ADL

was shown to be more common in women aged 75 – 84 years (OR 1.85, 95% CI (1.19–2.88, $P < 0.001$), 85 – 94 years (OR 3.40, 95% CI (1.34–1.57), $P < 0.001$) and > 94 years (OR 1.85, 95% CI (1.56–1.97), $P < 0.001$) (Schumpf et al. 2017).

In Jerez-Roig et al. (2016), the researcher found in their study that people who had UI that significantly associated with functional capacity, independency/slight dependency 17% (n=18), moderate dependency 57.1% (n= 36), 95% CI (2.10–5.40), severe dependency 90.6% (n= 135), 95% CI (3.49–8.15). In this study a reverse relation ($\beta = -1.722$) has been found and was significant (OR .179, 95% CI (.065, .492, $P = <.05$) frequency with ADL total score.

AlQuaiz et al. (2023) stated in their study, no significant association was observed with marital status with any UI related factors such as ADLs and psychosocial factors. There is a positive association between marital status and psychosocial factors (travel time greater than 30 minutes (OR 4.667, 95% CI (1.465, 14.909), $P = .009$), entertainment activities have a significant positive relationship (OR 2.868, (95% CI (.964, 8.536), $P = .058$). A reverse relation ($\beta = -1.609$) has been found and was significant ($P = <.05$) between marital status and ADL total score (OR .200, 95% CI (.064, .623)). In bivariate analysis, the proportion of time spent in SB was linked with moderate-severe UI and UUI ($p = 0.014$ and $p = 0.047$, but not with SUI. Multivariate analysis revealed a link between UUI and a longer average duration of SB bouts (OR = 1.05, 95% CI = (1.01–1.09), $p = 0.006$), but no link with moderate-severe UI or SUI (Jerej roig et al. 2020). No significant association was found on regression that sedentary behaviors with any predictable variables in this study.

Limitation of the Study:

Complete accuracy will not be possible in any research so that some limitations may exist. Regarding this study, there were some limitations to consider the result of the study as below:

Data collection procedure was interrupted due to time limitation of our academic course and was taken only 100 samples. The sample size is smaller than actual requirement of the study. The urinary incontinence status used are based entirely on patients 'reports of symptoms; there was no urodynamic testing to confirm the status of incontinence. The design of the present study was cross-sectional and the evaluations were performed at only one point in time. The women felt shy to give information on this condition. As the study was conducted at Centre for the Rehabilitation of the Paralysed (CRP) which may not represent the whole country. No research has been done before on this topic. So, there was little evidence to support the result of this project in the context of Bangladesh.

6.1 Conclusion

Urinary incontinence is a common and distressing medical condition severely affecting sedentary behavior, activities of daily living and psychosocial life of a women. Among 100 participants mean± SD of overall age was 52.04±12.351. This study shows that UI is mostly occurred in the ages of 50-59 years old women. Majority of the cases were experienced frequency of UI about once a week or less often is 25% (n= 25), 46% (n= 25) cases were experienced frequency of UI Two or three times a week, 23% (n= 25) cases are experience frequency of once a day, 6% (n= 25) cases are experience frequency several a day. The prevalence of UI among women. 26% reported SUI, 37% reported UUI and 37% reported MUI. Statistical analysis showed sociodemographic characteristics and UI status has an association among sedentary behavior, ADL and psychosocial impacts. One of the biggest challenges to current public health issues is the aging of the population, which is a fact of life in many nations. This is because chronic pathologies must be controlled and assistance must be provided to maintain the functionality and quality of life of people who are older. Urinary incontinence, a gynecological syndrome that can cause many forms of infirmity in the women's as well as emotional changes including discomfort, embarrassment, and loss of self-esteem, can be highlighted as one of the latter. In addition to the negative effects that UI patients experience, this syndrome has significant negative economic and social effects due to the high cost of care and caregiver overburden. Despite the implementation of various health-related issues, the cultural climate still discourages free discussion of issues pertaining to women's reproductive and sexual health. Regarding how women perceive UI, whether they are constrained in carrying out their daily duties and the link with sedentary and thinking behaviors, cultural variances are to be expected.

6.2 Recommendation

Like other countries, UI is likely to be an upcoming burden for Bangladesh. For this reason, it is important to develop research-based evidence of physiotherapy practice in this area. Presently, lots of NGOs working on disability are included the services of physiotherapy. But physiotherapy for gynecology induced UI is newly introduced in Bangladesh. It is crucial to develop research-based findings about the prevalence of the UI among the women. This study can be considered as a ground work for the physiotherapy service provision for the women with UI. Proper physiotherapy can reduce age related UI and prevents UI related complications. There are few studies on obstetrics area. These cannot cover all aspect of the vast area. So, it is recommended that the next generation of physiotherapy members continue study regarding this area, this may involve-use of large sample size and participants form different districts of Bangladesh. The Government should aware the people about physiotherapy in obstetrical area and create post in government hospitals and community hospital.

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APPENDIX

Information sheet (English)

Research study title: Urinary incontinence and its association with activities of daily living, sedentary behavior and psychosocial factors of women attending a selected rehabilitation center in Bangladesh.

Objective of the study:

1. This study is being conducted to find out the association of activities of daily living, sedentary behavior and psychosocial factors with urinary incontinence among women.
2. To determine the socio-demographic information of women's who suffered from urinary incontinence.

Participants of the study: Women with musculoskeletal and gynecological problems who have urinary incontinence are invite to participate in this research study.

Data collection procedure: If you participate in this study, you will be asked to some personal and other related information regarding urinary incontinence by using a questionnaire. This will take approximately 10-15 minutes of your time.

Benefits of participations: Participants will have the opportunity to reflect on, share and more aware of their thoughts and feelings about urinary incontinence. Additionally, your participation and better statements are likely to help us find the answer to the research questions and in future study it may benefitted to the researcher.

Risks of participations: We do not foresee any risk or discomfort from your participation in the study.

Economic benefits: You will not be given any money or gifts to take part in this research.

Confidentiality: All information provided by you will be treated as confidential it will ensure that the source of information remains secret. Also, your name will not appear anywhere and no one except me will know about your specific answers.

Voluntary participation: Yours participation in this study is voluntary, so you may choose to participate or not. Your decision will not to volunteer will not influence the treatment you may be receiving either now or in the future. If you do not wish to continue, you have the right to withdraw from the study, without penalty at any time.

Who to contact: If you have any query, you may ask me now or later, even after the study has started. If you wish to ask questions later, you may contact any of the following:

Researcher:

Marzia Alam Shupti

4th Professional B.Sc. in Physiotherapy

Bangladesh Health Professions Institute (BHPI)

Contact no: 01749588363

E-mail: marziaalam2014@gmail.com

Or,

My research supervisor:

Nadia Afrin Urme

Lecturer, Department of Physiotherapy

Bangladesh Health Professions Institute (BHPI), CRP, Savar, Dhaka- 1343.

E-mail: afrinnadia4127@yahoo.com

Consent certificate

A) Participant or witness:

1. Did you understand the information sheet?

yes/no

2. Do you have anything else to know?

yes/no

(If yes,)

3. Do you understand that you will not benefit financially from this research?

yes/no

4. Are you allowed to ask questions?

yes/no

5. Do you consent to your information being recorded?

yes/no

6. Have you got enough time to decide?

yes/no

7. Are you consenting to participate in this study?


yes/no

Name of Participant _____

Signature of Participant _____ Date _____

If participant is Illiterate

Name of literate witness _____

Thumb print of participant 

Signature of literate witness _____ Date _____

B) Researcher:

I explained the above study precisely to the participant and she indicated his willingness to participate in the study.

Name of Researcher _____

Signature of Researcher _____ Date _____

Questionnaire (English version)

Date:

Patient's name:

Patient ID No:

Code No:

Mobile No:

Address:

Part- I: Socio – demographic Information:

Questions	Response
1. Age Years
2. Educational Level	1. No formal schooling 2. Primary 3. S.S.C completed 4. H.S.C completed 5. Graduation 6. Post-graduation
3. Occupation	1. Housewife 2. Service holder
4. Marital status:	1. Married 2. Unmarried 3. Widow 4. Divorce
5. Number of children
6. Family size	1. Small family 2. Large family
7. Residential Area	1. Rural 2. Urban
8. Past medical History	1. DM 2. HTN 3. Others 4. More than one condition 5. None

Part II: Incontinence status: ICIQ-UI questionnaire has been designed to give us information of frequency, quantity, types. Each section consists of lowest 0 score = Never and other several score.

Questions	Response	Score
9. How often do you leak urine?	Never	0
	About once a week or less often	1
	Two or three times a week	2
	About once a day	3
	Several times a day	4
	All the time	5
10. How much urine do you usually leak?	None	0
	A small amount	2
	A moderate amount	4
	A large amount	6
11. Overall, how much does leaking urine interfere with your everyday life?		
<p style="text-align: center;">0 1 2 3 4 5 6 7 8 9 10</p> <p>Not at all A great deal</p>		
12. When does urine leak?	1. Never– urine does not leak	
	2. Leaks before you can get to the toilet	
	3. Leaks when you cough or sneeze	
	4. Leaks when you are asleep	
	5. Leaks when you are physically active/exercising	
	6. Leaks when you have finished urinating and are dressed	
	7. Leaks for no obvious reason	
	8. Leaks all the time	

Part III: Sedentary behavior:

Questions	Response
13. Sedentary behavior in daily activities.	1. Sitting and not walking very much
	2. Standing or walking quite a lot
	3. Heavy work, lifting/carrying loads or climbing
14. Self- reported watching TV/video.	1. < 1 hour/day
	2. 1–2 hours/day
	3. 3–4 hours/day
	4. \geq 5 hours/day

Part IV: Modified Barthel index questionnaire has been designed to give us about activities of daily living. Each section consists of lowest 1 point = Unable to perform and highest 5 points = Fully independent.

Question	Unable to perform task	Attempts task but unsafe	Moderate help required	Minimal help required	Fully Independent
15. Personal hygiene	1	2	3	4	5
16. Bathing self	1	2	3	4	5
17. Feeding	1	2	3	4	5
18. Toilet	1	2	3	4	5
19. Stair climbing	1	2	3	4	5
20. Dressing	1	2	3	4	5
21. Bowel control	1	2	3	4	5
22. Bladder control	1	2	3	4	5

23. Ambulation	1	2	3	4	5
24. Chair/bed transfers	1	2	3	4	5

Part V: IIQ-7 questionnaire has been designed to give us information about the psychosocial impacts of UI. Each section consists of lowest 0 point = Not at all and highest 3 points = Greatly.

Questions	Not at all	Slightly	Moderately	Greatly
25. Ability to do household chores (Cooking, house cleaning, laundry)?	0	1	2	3
26. Physical recreation such as walking, swimming or other exercise?	0	1	2	3
27. Entertainment activities (movies, concerts, etc.)?	0	1	2	3
28. Ability to travel by car or Bus more than 30 minutes from home?	0	1	2	3
29. Participation in social activities outside your home?	0	1	2	3
30. Emotional health (nervousness, depression, etc.)?	0	1	2	3
31. Feeling frustrated?	0	1	2	3

তথ্য পত্র (বাংলা)

গবেষণা অধ্যয়নের শিরোনাম: বাংলাদেশের নির্বাচিত পুনর্বাসন কেন্দ্রে যোগদানকারী মহিলাদের দৈনন্দিন জীবনযাপন, অলস সময় যাপনের আচরণ এবং মনোসামাজিক কারণগুলির সাথে প্রসাবের অসংযম এর সম্পর্ক।

অধ্যয়নের উদ্দেশ্য:

১। এই অধ্যয়নটি মহিলাদের মধ্যে প্রসাবের সংযম সমস্যার সাথে দৈনন্দিন জীবনযাত্রার কার্যকলাপ, অলস সময় যাপনের আচরণ এবং মনোসামাজিক কারণগুলির সংযোগ খুঁজে বের করার জন্য পরিচালিত হচ্ছে।

২। প্রসাবের অসংযমতায় ভুগছেন এমন মহিলাদের সামাজিক-বৈষয়িক তথ্য জানার জন্য।

অধ্যয়নের অংশগ্রহণকারীরা: মাসকুলোস্কেলেটাল এবং স্ত্রীরোগ সমস্যায়ুক্ত মহিলারা যাদের প্রসাবের অসংযম রয়েছে তাদের এই গবেষণায় অংশগ্রহণের জন্য আমন্ত্রণ জানানো হয়েছে।

ডেটা সংগ্রহের পদ্ধতি: আপনি যদি এই গবেষণায় অংশগ্রহণ করেন, তাহলে প্রসাববলী ব্যবহার করে আপনাকে কিছু ব্যক্তিগত এবং মূত্রনালীর অসংযম সম্পর্কিত কিছু তথ্য জিজ্ঞাসা করা হবে। এটি আপনার সময়ের প্রায় ১০-১৫ মিনিট সময় নেবে।

অংশগ্রহণের সুবিধা: অংশগ্রহণকারীদের প্রসাবের অসংযম সম্পর্কে তাদের চিন্তাভাবনা এবং অনুভূতি সম্পর্কে প্রতিফলিত করার জন্য, সমস্যা জানানো এবং আরও সচেতন হওয়ার সুযোগ থাকবে। উপরন্তু, আপনার অংশগ্রহণ এবং আরও ভাল বিবৃতিগুলি আমাদের গবেষণা প্রশ্নের উত্তর খুঁজে পেতে সাহায্য করবে এবং ভবিষ্যতে গবেষণায় এটি গবেষকের জন্য উপকৃত হতে পারে।

অংশগ্রহণের ঝুঁকি: অধ্যয়নে আপনার অংশগ্রহণ থেকে আমরা কোনো ঝুঁকি বা অস্বস্তির পূর্বাভাস দিই না।

অর্থনৈতিক সুবিধা: এই গবেষণায় অংশ নেওয়ার জন্য আপনাকে কোনো অর্থ বা উপহার দেওয়া হবে না।

গোপনীয়তা: আপনার দ্বারা প্রদত্ত সমস্ত তথ্য গোপনীয় হিসাবে বিবেচিত হবে এটি নিশ্চিত করা হচ্ছে যে তথ্যের উৎস গোপন থাকবে। এছাড়াও, আপনার নাম কোথাও প্রদর্শিত হবে না এবং আমি ছাড়া কেউ আপনার নির্দিষ্ট উত্তর সম্পর্কে জানবে না।

স্বেচ্ছায় অংশগ্রহণ: এই গবেষণায় আপনার অংশগ্রহণ সম্পূর্ণ স্বেচ্ছায়, তাই আপনি অংশগ্রহণ বা না করা বেছে নিতে পারেন। আপনার স্বেচ্ছায় অংশগ্রহণ না করার সিদ্ধান্ত আপনি এখন বা ভবিষ্যতে যে চিকিৎসা গ্রহণ করছেন তা প্রভাবিত করবে না। আপনি যদি চালিয়ে যেতে না চান, তাহলে আপনার অধ্যয়ন থেকে প্রত্যাহার করার অধিকার আছে, জরিমানা ছাড়াই, যেকোনো সময়।

কার সাথে যোগাযোগ করবেন: আপনার যদি কোনো প্রশ্ন থাকে, আপনি আমাকে এখন বা পরে জিজ্ঞাসা করতে পারেন, এমনকি অধ্যয়ন শুরু হওয়ার পরেও। আপনি যদি পরে প্রশ্ন জিজ্ঞাসা করতে চান, তাহলে আপনি নিম্নলিখিত যেকোনো উপায়ে যোগাযোগ করতে পারেন:

গবেষক:

মার্জিয়া আলম সুপ্তি

৪র্থ বর্ষ বিএসসি ইন ফিজিওথেরাপি

বাংলাদেশ হেলথ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)

যোগাযোগের নম্বর: ০১৭৪৯৫৮৮৩৬৩

ই-মেইল: marziaalam2014@gmail.com

অথবা,

আমার গবেষণা সুপারভাইজার:

নাদিয়া আফরিন উর্মী

প্রভাষক, ফিজিওথেরাপি বিভাগ

বাংলাদেশ হেলথ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই), সিআরপি, সাভার, ঢাকা- ১৩৪৩।

ই-মেইল: afrinnadia4127@yahoo.com

সম্মতিপত্র

ক) অংশগ্রহণকারী বা সাক্ষী:

১. আপনি কি তথ্যপত্রটি বুঝতে পেরেছেন?

হ্যাঁ/ না

২. আপনার কি আর কিছু জানার আছে?

হ্যাঁ/ না

(হ্যাঁ হলে

.....)

৩. আপনি কি বুঝতে পেরেছেন আপনি এ গবেষণা থেকে আর্থিকভাবে উপকৃত হবেন না?

হ্যাঁ/ না

৪. আপনি কি প্রশ্ন করার অনমুতি দিচ্ছেন?

হ্যাঁ/ না

৫. আপনি কি আপনার তথ্যগুলো নেয়ার অনমুতি দিচ্ছেন?

হ্যাঁ/ না

৬. সিদ্ধান্ত কি নেয়ার জন্য যথেষ্ট সময় পেয়েছেন?

হ্যাঁ/ না

৭. আপনি কি এই গবেষণায় অংশগ্রহণের সম্মতি প্রদান করছেন?

হ্যাঁ/ না

অংশগ্রহণকারীর নাম:

অংশগ্রহণকারীর স্বাক্ষর:

তারিখ:

অংশগ্রহণকারী যদি নিরক্ষর হয়:

শিক্ষিত সাক্ষীর নাম:

অংশগ্রহণকারীর আঙ্গুলের ছাপ

সাক্ষীর স্বাক্ষর:

তারিখ:

খ) গবেষক:

আমি অংশগ্রহণকারীকে উপরোক্ত অধ্যয়নটি সুনির্দিষ্টভাবে ব্যাখ্যা করেছি এবং তিনি অধ্যয়নে অংশগ্রহণের জন্য তার ইচ্ছুকতার ইঙ্গিত দিয়েছেন।

গবেষকের নাম:

গবেষক স্বাক্ষর:

তারিখ:

প্রশ্নাবলী (বাংলা)

তারিখ:

রোগীর নাম:

রোগীর আইডি:

কোড:

মোবাইল নং:

ঠিকানা

পর্ব ১: সামাজিক - বৈষয়িক সংক্রান্ত তথ্যাবলী:

প্রশ্ন সমূহ	উত্তর
১। বয়স বছর
২। শিক্ষাগত যোগ্যতা	১। কোন প্রাতিষ্ঠানিক শিক্ষা নেই ২। প্রাথমিক শিক্ষা ৩। মাধ্যমিক সম্পন্ন ৪। উচ্চ মাধ্যমিক সম্পন্ন ৫। স্নাতক ডিগ্রী সম্পন্ন ৬। স্নাতকোত্তর ডিগ্রী সম্পন্ন
৩। পেশা	১। গৃহিণী ২। চাকুরিজীবী
৪। বৈবাহিক অবস্থা:	১। বিবাহিত ২। অবিবাহিত ৩। বিধবা ৪। তলাকপ্রাপ্ত
৫। সন্তান সংখ্যা
৬। পরিবারের ধরন	১। ছোট পরিবার ২। বড় পরিবার
৭। আবাসিক এলাকা	১। গ্রাম ২। শহর

৮। অতীত চিকিৎসার তথ্যবলী	১। ডয়াবেটিস ২। উচ্চরক্তচাপ ৩। অন্যান্য ৪। একাধিক রোগ ৫। কোনটিই নয়
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পর্ব ২: অনিয়ন্ত্রণ মূত্রজনিত সমস্যা: ICIQ-UI প্রশ্নাবলী আমাদের অনিয়ন্ত্রণ মূত্র বের হয়ে যাওয়ার পুনরাবৃত্তি, পরিমাণ, প্রকারের তথ্য দেওয়ার জন্য সাজানো হয়েছে। প্রতিটি বিভাগে সর্বনিম্ন ০ নম্বার = কখনও নয় এবং অন্যান্য বেশ কয়েকটি নম্বার আছে।

প্রশ্ন সমূহ	প্রতিক্রিয়া	প্রাপ্ত নম্বার
৯। আপনার কতবার ঘন ঘন মূত্র বের হয়?	কখনই না	০
	সপ্তাহে একবার বা তার চেয়ে কম	১
	সপ্তাহে দু - তিন বার করে	২
	দিনে প্রায় একবার	৩
	দিনে বেশ কয়েকবার	৪
	সব সময়	৫
১০। আপনার সাধারণত কি পরিমাণ নিয়ন্ত্রণহীন মূত্র বের হয়?	কোনোটিই নয়	০
	অল্প পরিমাণ	২
	মাঝারি পরিমাণ	৪
	বেশি পরিমাণ	৬
১১। সামগ্রিকভাবে, প্রস্রাবের নিয়ন্ত্রণহীন বের হয়ে যাওয়া আপনার দৈনন্দিন জীবনে কতটা হস্তক্ষেপ করে? ০ ১ ২ ৩ ৪ ৫ ৬ ৭ ৮ ৯ ১০ একদমই না অনেক বেশি		
১২। কখন প্রস্রাব বের হয়?	১। কখনই না – নিয়ন্ত্রণহীন মূত্র বের হয় না	
	২। টয়লেটে যাওয়ার আগে বের হয়ে যায়	
	৩। আপনি কাশি বা হাঁচি দিলে বের হয়	
	৪। আপনি যখন ঘুমিয়ে থাকেন তখন বের হয়	

	৫। যখন আপনি শারীরিকভাবে সক্রিয়/ব্যায়াম করেন তখন নিয়ন্ত্রণহীন মূত্র বের হয়
	৬। আপনার মূত্র শেষ হলে আবার মূত্র বের হয়ে যায় এবং যখন পোশাক পরিধান করেন
	৭। কোন সুস্পষ্ট কারণে বের হয় না
	৮। সব সময় বের হয়

পর্ব ৩: অলস সময় যাপনের আচরণ:

প্রশ্ন সমূহ	প্রতিক্রিয়া
১৩। দৈনন্দিন কাজকর্মে অলস সময় যাপনের আচরণ।	১। বসে থাকা এবং খুব বেশি হাঁটা না
	২। দাঁড়িয়ে থাকা বা অনেক বেশি হাঁটা
	৩। ভারী কাজ, ভার উত্তোলন/ভার বহন বা আরোহণ
১৪। টিভি/ভিডিও দেখার স্ব-প্রতিবেদন।	১। < ১ ঘন্টা/দিন
	২। ১-২ ঘন্টা/দিন
	৩। ৩-৪ ঘন্টা/দিন
	৪। ≥ ৫ ঘন্টা/দিন

পর্ব ৪: MODIFIED BARTHEL INDEX প্রশ্নাবলী আমাদের দৈনন্দিন জীবনযাত্রার কার্যকলাপ সম্পর্কে তথ্য দেওয়ার জন্য ডিজাইন করা হয়েছে। প্রতিটি বিভাগে সর্বনিম্ন ১ নাম্বার = কাজ করতে অক্ষম এবং সর্বোচ্চ ৫ নাম্বার = সম্পূর্ণরূপে স্বাধীন।

প্রশ্ন সমূহ	কাজটি করতে অক্ষম	কাজ করার চেষ্টা করে কিন্তু অনিরাপদ	মাঝারি সাহায্য প্রয়োজন	সামান্যতম সাহায্য প্রয়োজন	সম্পূর্ণরূপে স্বাধীন
১৫। ব্যক্তিগত স্বাস্থ্যবিধি/ পরিচ্ছন্নতা	১	২	৩	৪	৫
১৬। স্ব স্নান	১	২	৩	৪	৫
১৭। খাওয়ানো	১	২	৩	৪	৫
১৮। টয়লেট	১	২	৩	৪	৫
১৯। সিঁড়ি আরোহণ	১	২	৩	৪	৫
২০। পোশাক পরিধান	১	২	৩	৪	৫

২১। আত্মিক নিয়ন্ত্রণ	১	২	৩	৪	৫
২২। মূত্রাশয় নিয়ন্ত্রণ	১	২	৩	৪	৫
২৩। চলনশীলতা	১	২	৩	৪	৫
২৪। চেয়ার/বিছানা স্থানান্তর	১	২	৩	৪	৫

পর্ব ৫: IIQ-7 প্রশ্নাবলী প্রসাবের অসংযম- এর মনোসামাজিক প্রভাব সম্পর্কে আমাদের তথ্য দেওয়ার জন্য ডিজাইন করা হয়েছে। প্রতিটি বিভাগে সর্বনিম্ন ০ নম্বর = মোটেই নয় এবং সর্বোচ্চ ৩ নম্বর = অনেক প্রভাব।

প্রশ্ন সমূহ	একদমই না	সামান্য প্রভাব	মোটামুটি প্রভাব	অনেক প্রভাব
২৫। গৃহস্থালির কোন কাজে প্রভাব ফেলে (রান্না, ঘর পরিষ্কার করা, লজ্জি)?	০	১	২	৩
২৬। শারীরিক বিনোদন যেমন হাঁটা, সাঁতার কাটা বা অন্যান্য ব্যায়াম ইত্যাদিতে কোন প্রভাব ফেলে?	০	১	২	৩
২৭। বিনোদনমূলক কার্যক্রম (চলচ্চিত্র, কনসার্ট ইত্যাদি)?	০	১	২	৩
২৮। বাড়ি থেকে ৩০ মিনিটের বেশি গাড়ি বা বাসে ভ্রমণ করতে পারেন?	০	১	২	৩
২৯। আপন বাড়ির বাইরে গিয়ে সামাজিক কার্যকলাপে অংশগ্রহণ করতে পারেন?	০	১	২	৩
৩০। মানসিক অসুস্থতা (স্নায়ুবিদ্যুৎ দুর্বলতা, বিষন্নতা ইত্যাদি) বোধ করেন?	০	১	২	৩
৩১। হতাশ বোধ করেন?	০	১	২	৩



বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)
Bangladesh Health Professions Institute (BHPI)

(The Academic Institute of CRP)

Ref: CRP/BHPI/IRB/03/2023/712

Date: 13/03/2023

To
Marzia Alam Shupti
B.Sc. in Physiotherapy,
Session: 2017-2018, DU Reg. No: 8652
BHPI, CRP, Savar, Dhaka- 1343, Bangladesh

Subject: Approval of the dissertation proposal “Urinary Incontinence and Its Association with Activities of Daily Living, Sedentary Behavior and Psychosocial Factors of Women Attending a Selected Rehabilitation Center in Bangladesh” - by ethics committee.

Congratulations

Dear

Marzia Alam Shupti,

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, Nadia Afrin Urme, Lecturer, Department of Physiotherapy, BHPI, as dissertation supervisor. The following documents have been reviewed and approved:

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

The purpose of the study is to find out the association of activities of daily living, sedentary behavior and psychosocial factors with urinary incontinence among women. Should there any interpretation, typo, spelling, grammatical mistakes in the title, it is the responsibilities of the investigator. Since the study involves questionnaire that takes maximum 10- 15 minutes and have no likelihood of any harm to the participants. The members of the Ethics committee approved the study to be conducted in the presented form at the meeting held at 09:00 AM on January 9, 2023 at BHPI, 34th IRB Meeting.

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

Best regards,

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

Date: March 19, 2023

To

Head

Department of Physiotherapy

Centre for the Rehabilitation of the Paralysed (CRP)

Chapain, Savar, Dhaka-1343

Through: Head, Department of Physiotherapy, BHPI

Subject: Prayer for seeking permission to collect data for conducting a research project.

Sir,

With due respect and humble submission to state that I am Marzia Alam Shupti, student of 4th year B.Sc. in Physiotherapy at Bangladesh Health Professions institute (BHPI). The Ethical committee has approved my research project entitled: **“Urinary incontinence and its association with activities of daily living, sedentary behavior and psychosocial factors of women attending a selected rehabilitation center in Bangladesh.”** under the supervision of Nadia Afrin Urme, Lecturer, Department of Physiotherapy, Bangladesh Health Professions Institute (BHPI), CRP, Savar, Dhaka-1343. Conducting this research project is partial fulfillment of the requirement for the degree of B.Sc. in Physiotherapy. I want to collect data for my research project from department of Physiotherapy. So, I need your kind permission for data collection at Musculoskeletal and Gynecological unit of CRP (Savar & Mirpur centre, Dhaka). I would like to assure that nothing of the study would be harmful for the participants.

I therefore, pray and hope that your honor would be kind enough to grant my application and give me permission for data collection and oblige thereby.

Sincerely

Marzia Alam Shupti

Marzia Alam Shupti

4thYear

B.Sc. in Physiotherapy

Class Roll: 31; Session: 2017-18

Bangladesh Health Professions Institute (BHPI)

(An academic institution of CRP)

Chapain, CRP, Savar, Dhaka, 1343.

Forwarded
19.3.2023

Recommended
Shofiq
19.03.2023

Approved
19/3/23

Dr. Mohammad Atiqul Hossain
Senior Consultant & Head
Physiotherapy Department
Associate Professor, BHPI
CRP, Savar, Dhaka-1343

Md. Shofiqul Islam
Associate Professor & Head
Department of Physiotherapy
Bangladesh Health Professions Institute (BHPI)
Chapain, Savar, Dhaka-1343