

# **PREVALENCE OF GYNECOLOGICAL PROBLEMS OF PATIENTS WITH SPINAL CORD INJURY**

**Parvin Akther**

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**Bangladesh Health Professions Institute (BHPI)**

Department of Physiotherapy

CRP, Savar, Dhaka-1343

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

**PREVALENCE OF GYNECOLOGICAL PROBLEMS OF  
PATIENTS WITH SPINAL CORD INJURY**

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

.....  
**Md. Obaidul Haque**

B.Sc. PT (Hons.), Dip. Ortho. Med., MPH  
Associate Professor & Head  
Department of Physiotherapy  
BHPI, CRP, Savar, Dhaka  
Supervisor

.....  
**Mohammad Anwar Hossain**

B.Sc. PT (Hons.), Dip. Ortho. Med., MPH  
Associate Professor, Physiotherapy, BHPI  
Head of the Department of Physiotherapy  
CRP, Savar, Dhaka

.....  
**Nasirul Islam**

B.Sc. PT (Hons.), MPH  
Associate Professor & Coordinator  
Masters of Rehabilitation Science  
BHPI, CRP, Savar, Dhaka

.....  
**Md. Shofiqul Islam**

B.Sc. PT (Hons.), MPH  
Assistant Professor  
Department of Physiotherapy  
BHPI, CRP, Savar, Dhaka

.....  
**Md. Obaidul Haque**

B.Sc. PT (Hons.), Dip. Ortho. Med., MPH  
Associate Professor & Head  
Department of Physiotherapy  
BHPI, CRP, Savar, Dhaka

## **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 of my supervisor, Head of the Physiotherapy Department of Bangladesh Health Professions Institute (BHPI).

**Signature:**

**Date:**

**Parvin Akther**

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## Acronyms

<b>ASIA</b>	American Spinal Injury Association
<b>BHPI</b>	Bangladesh Health Professions Institute
<b>CRP</b>	Center for the Rehabilitation of the Paralyzed
<b>SCI</b>	Spinal Cord Injury
<b>SPSS</b>	Statistical Package of Social Sciences
<b>AD</b>	Autonomic Dysreflexia
<b>UTI</b>	Urinary Tract Infection
<b>WHO</b>	World Health Organization
<b>IRB</b>	Institutional Review Board
<b>BMRC</b>	Bangladesh Medical Research Council
<b>TSCI</b>	Traumatic Spinal Cord Injury

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## Abstract

*Purpose:* To find out the number of gynecological problems patients with spinal cord injury *Objectives:* To gather socio-demographic information among spinal cord injury patients, to identify the common gynecological problems, to clarify the factors associated with these problems, to find out the treatment received for these problems, to identify the SCI related problems due to these problems, to find out the problems that affect the physiotherapy treatment. *Methodology:* Cross sectional type of study design was used to perform the study. In this study 24 samples were taken by convenience sampling from SCI unit at CRP. The data was collected by using a semi-structural questionnaire by face to face interview. Data were analyzed through SPSS 16 version. *Results:* This study showed that the prevalence of gynecological problems among spinal cord injury patient was 67% (n=16). Most common problem was the menstrual problem. About 75% (n=12) participant's menstruation was stop after injury and 58% (n=7) had stop menstruation for 1-3 months range. During or before menstruation approximately 44% (n=7) had headache and sweating. SCI related problems were increased during or before menstruation. Approximately 31% (n=5) had bladder spasm and muscle spasticity in this period. Hygiene management is the major problem during menstruation. Only near about 19% (n=3) maintain hygiene during this period. Burning sensation and pain during urination was another problem and the study showed that 87% (n=14) and 81% (n=13) felt that problems respectively. Pelvic pain was prevalent among the participants and 44% (n=7) participants had pelvic pain. All of the participants complain about the increasing amount of vaginal discharge and also stress problem after SCI. Only about 19% (n=3) participants received gynecological treatment and 56% (n=9) reported that these problems affect physiotherapy treatment. *Conclusion:* The findings of the study suggested that gynecological problem was prevalent among spinal cord injured patients. Therefore pathological examination must be done to find out any pathology.

*Keywords:* Spinal cord injury, Gynecological problems.

## 1.1 Background

Bangladesh is a small country but has a large population and many people are poor (Azam et al., 2009). Poverty and disability has a relationship, due to poverty most of the people work at high risk jobs and ultimately it can lead to disability and in Bangladesh most of the people who are disabled due to spinal cord injury are poor (Disability in Bangladesh, 2004). Spinal cord injury is a condition which causes disability and nearly 4.6% people are disabled due to spinal cord injury in Bangladesh (Hossain, 2001).

Spinal cord injury (SCI) is considered as a catastrophic event and acts as a major cause of severe disability following trauma (Murthy, 2007). Spinal cord injury is an important public health problem and a major cause of paralysis all over the world (Ning et al., 2012). Spinal cord injury occurs if the injuries and diseases affect the spinal cord (Jia et al., 2013). Spinal cord injury is an important health problem in Bangladesh as they carry high rates of morbidity and mortality (Haque et al., 1999). Spinal cord injury is a devastating event for a person and their family, as well as a tremendous financial burden to the society because of its attendant morbidity, expense and prolonged treatment (Rathore et al., 2008)

Spinal cord injury occurs in various countries throughout the world with an incidence of 10.4 per million per year (Wyndaele et al., 2006). In Australia, a study showed that the most devastating medical condition is Spinal cord injury (SCI) or damage and it causes life changing consequences (New & Sundararajan, 2008). Another study in Australia also showed that the annual cases of SCI were 253 in 1997 but a study showed that the annual cases would increase 464 in 2021 (O'Connor, 2005). In the United States the annual incidence of spinal cord injury (SCI) is 11,000 (Jackson et al., 2004). Among developed countries, the incidence rates of Traumatic spinal cord injury (TSCI) dropped from 52.2 to 13.1 per million people and among developing countries, the incidence rates ranged from 12.7 to 29.7 per million people (Chiu et al., 2010).

In India, approximately 20,000 new cases of spinal cord injury (SCI) are added every year; 60-70% of them are illiterate, poor villagers (Singh et al., 2003). Most affected age group in India is 20-39 years followed by 40-59 years age group and male and female ratio is approximately 3.6:1 (Agarwal et al., 2007).

The incidence of spinal cord injury in Bangladesh was not showed in any study (Ning et al., 2012). In Bangladesh the overall age group for spinal cord injury (SCI) ranges from 10-70 years, majority of the patient's age is below 40 years and both male and female are affected with spinal cord injury (SCI), about 84% male and 16% female are affected (Islam et al., 2011). Whereas in developed countries like Australia the ratio of male and female is 3.5:1 and in United States these ratio is 3.8:1 (Chiu et al., 2010).

The level and the severity of the spinal cord injury differs from person to person and the level of the injury are determined by the type and the degree of functional ability, approximately 40% of patients with spinal cord injury are complete SCI, 40% with incomplete SCI and about 20% with either no cord or root lesions here in Bangladesh (Hoque et al., 1999). But in Pakistan 18.1% incomplete paraplegia, 53% complete paraplegia, 21.7% incomplete quadriplegia, 4.8% complete quadriplegia during admitted in a hospital (Rathore et al., 2008).

In Bangladesh, a disable woman is isolated, marginalized, socially unaccepted and neglected. Therefore, spinal cord injury patients need a specialized and comprehensive rehabilitation service, especially for the women because women are more vulnerable but the rehabilitation of these women are poor due to their minority status (Samuel et al., 2007). In Bangladesh, rehabilitation for spinal cord injury is poor and there are only two specialized hospitals for the management of spinal cord injury; The CRP is a non-governmental organization specializing in the management of patients with spinal cord lesions (Hoque et al., 1999). But only CRP provides complete treatment and rehabilitation training to SCI patients (Disability in Bangladesh, 2004). At CRP, management is based on a multi- and inter-disciplinary approach, with emphasis on the development of community based rehabilitation programs (Hoque et al., 1999).

Jackson & Mott (2007) stated that limited information about the gynecological condition of women with spina bifida but they faces more problems. Gynecological problems are major health problem of women with spinal cord injury (Jackson & Wadley, 1999).The most common problems of these women after spinal cord injury is the menstrual problem and many women faces amenorrhoea and galactorrhoea (Rutberg et al., 2008). Exacerbation of spasticity, autonomic fluctuation and bladder spasticity are seen during menstruation of women with spinal cord injury but not these occur in women with spina bifida (Jackson & Mott, 2007). Another gynecological experience of women with spinal cord injuries are urinary tract infection, vaginal yeast infection and ovarian cyst (Jackson & Wadley, 1999). Menopausal problem is not commonly seen after spinal cord injury as well as women with spina bifida because of their short life span (Jackson & Mott, 2007). Therefore women with spinal cord injury needs complete rehabilitation (Samuel et al., 2007) and concern towards these gynecological problems which also hamper the rehabilitation process (Jackson & Wadley, 1999).

## **1.2 Rationale**

Now a day the evidence of SCI is increasing in Bangladesh with increasing the population and people are involved in different risky occupation. Both male and female are affected. But female are less common than male (Islam et al., 2011). Female health is very important as it plays an important role in reproduction. In Bangladesh women with spinal cord injury becomes a burden of the society. Very few women play roles in social participation after their injury. Women with spinal cord injuries have some common gynecological problems (Burns & Jackson, 2001) but they can be overlooked due to the environment. Nowadays Spinal cord Injuries are the most commonly occurring disabling conditions in all developing and developed countries. This situation is likely to increase day by day in developing countries due to a lack of safety awareness. In Bangladesh, health educations are very poor among spinal cord injured women. They are not aware about their health. As a developing country Bangladesh is trying to develop health care system. Therefore at present Bangladeshi people lack health provision from either government or nongovernment sectors. The spinal cord injury patient needs a specialized and comprehensive rehabilitation service to continue their activities of daily living in the community. But without taking care of gynecological problems, we cannot ensure proper rehabilitation. In Bangladesh no relevant research has been conducted in this field. Even in developed countries there is very little research among disabled women. Spinal cord injury patients suffer some gynecological problems which affect their proper rehabilitation. By doing the research, the problems or disorders may be drawn out. And the patients also become more aware of their problems. Thus this research may help to find out the factors associated with these problems. This study will provide information about spinal cord injuries as well as the socio-demography of the patients. This study will help to provide effective treatment for the women with spinal cord injuries. The research will also alert the medical professionals about gynecological problems, and will help to prevent further complication. Physiotherapy is not a new profession in this country but gynecological physiotherapy practices are very rare here. Through this research, gynecological physiotherapy practices will increase. Finally this will help to ensure proper rehabilitation and reduces frustration, distress and isolation which feel after injury.

### **1.3 Research question**

What are the prevalence of common gynecological problems among spinal cord injury patients ?

### **1.4 Study objectives**

#### **1.4.1 General objective**

To find out the number of gynecological problems patients with spinal cord injury.

#### **1.4.2 Specific objective**

To gather socio-demographic information among spinal cord injury patients.

To identify the common gynecological problems.

To clarify the factors associated with these problems.

To find out the treatment received for these problems.

To identify the SCI related problems due to these problems.

To find out the problems that affects the physiotherapy treatment.

## 1.5 List of variables

### Independent variable

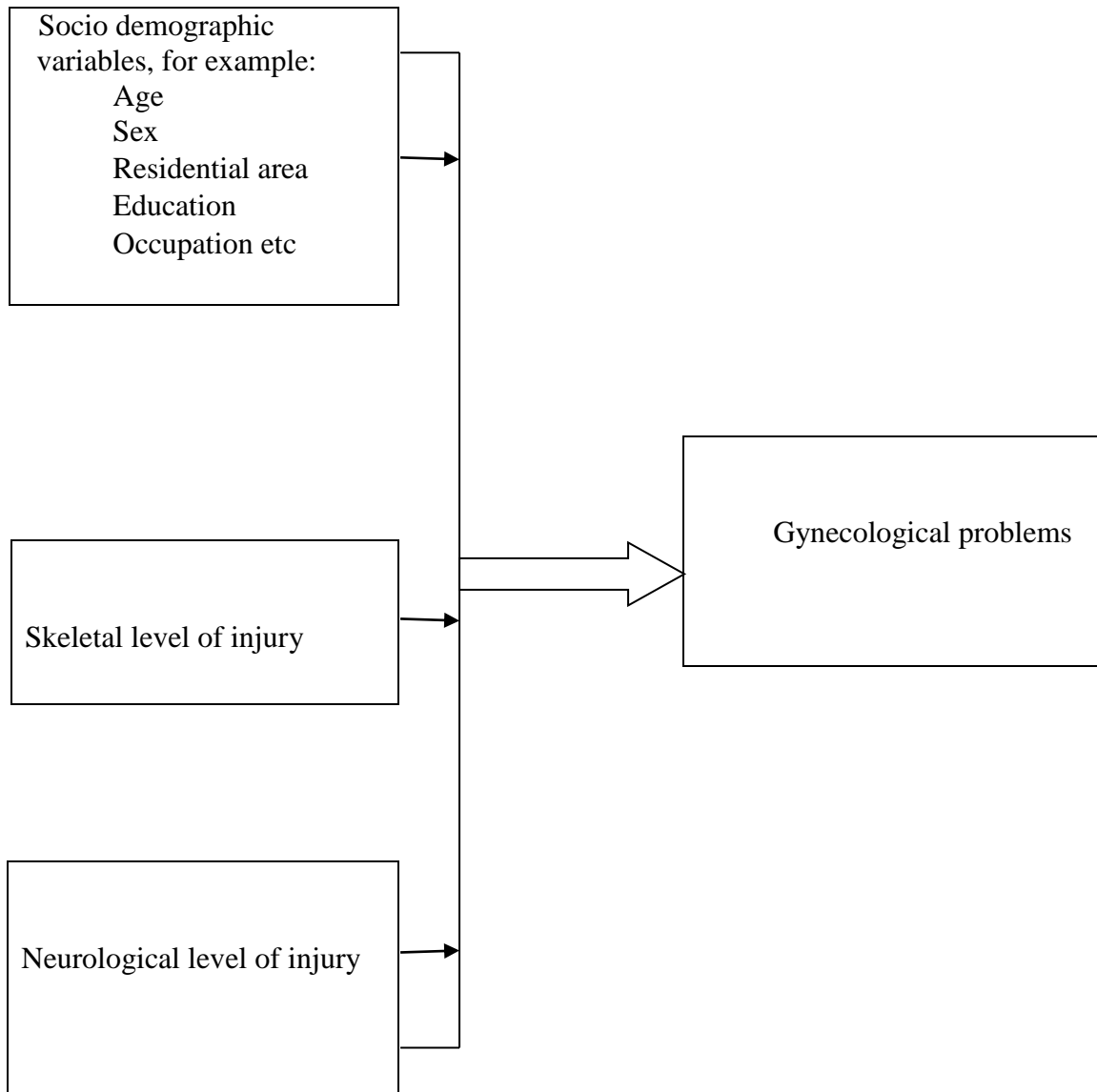
Socio demographic variables, for example:  
Age  
Sex  
Residential area  
Education  
Occupation etc

Skeletal level of injury

Neurological level of injury

### Dependent variable

Gynecological problems





## 1.6 Operational definition

**Spinal cord injury:** Spinal cord injury (SCI) is an injury to the spinal cord that result in a change, either temporary or permanent, in the cords normal motor, sensory or autonomic function.

**Paraplegia:** The term paraplegia means impairment or loss of motor and/ or sensory function in the thoracic, lumber and sacral segments of the spinal cord which is secondary to the damage of neural elements within the spinal canal. In other word paraplegia means paralysis of both lower limbs.

**Tetraplegia:** The term tetraplegia means paralysis of all four limbs; motor and/or sensory function in the cervical spinal segments is impaired or lost due to damage to that part of the spinal cord. In tetraplegia upper limbs, lower limbs, trunk, and pelvic organs function are impaired or loss.

**Complete lesion:** Complete lesion means complete damage of spinal cord that result in absence of sensory and motor functions in the lowest sacral segments.

**Incomplete lesion:** An incomplete lesion is the term used to describe partial damage to the spinal cord. With an incomplete lesion, some sensory and/or motor function remains at the lowest sacral segments.

**Skeletal level:** The level of vertebra which is mostly injured.

**Neurological level:** The most caudal level, where both sensory and motor function are intact.

**Complete-A:** No sensory or motor function is preserved in the sacral segments S4-S5.

**Incomplete-B:** Sensory but not motor function is preserved below the neurological level and includes the sacral segments S4-S5.

**Incomplete -C:** Motor function is preserved below the neurological level, and more than half of the key muscle functions below the single neurological level of the injury have a muscle grade less than 3 (Grades 0–2).

**Incomplete-D:** Motor function is preserved below the neurological level, and at least half of the key muscle functions below the neurological level have a muscle grade greater than or equal to 3.

**Normal:** Sensory and motor function is normal.

**Prevalence:** Prevalence specifically refers to the number of new and old cases in a given point of time or over a period of time in a given population.

**Gynecological problems:** Gynecological problems are health issues that affect mainly the organs in a woman's abdomen and pelvis. The most common system affected by gynecological disorders and conditions is the female reproductive system.

**Amenorrhoea:** Absence or irregularity of menstruation within a period of time.

**Menopause:** Totally stopped of menstruation.

The spinal cord is the part of the central nervous system (CNS) in the superior two third of the vertebral canal. It is roughly cylindrical to oval in cross section with a central canal (Drake et al., 2005). It is protected by the vertebrae and their associated muscles, ligaments, spinal meninges and the cerebrospinal fluid (CSF). The spinal cord begins as a continuation of the medulla oblongata; the caudal part of the brainstem (Moore & Dalley, 2006). The spinal cord is 42-45cm long and extends from the foramen magnum to the level of the L1 or L2 vertebra (Drake et al., 2005).

Spinal cord injury is defined as the occurrence of an acute traumatic lesion of neural elements in the spinal canal (spinal cord and cauda equina), resulting in temporary or permanent neurological deficit (Dryden et al., 2003).

Chen et al, (2013) point out that spinal cord injury occurs due to many causes, most common are automobile crashes (31.5%) and falls (25.3%), followed by gunshot wounds (10.4%), motorcycle crashes (6.8%), diving incidents (4.7%), and medical/surgical complications (4.3%). In developed countries road traffic accident is the main cause of spinal cord injury followed by fall from height and then sports injury (Chiu et al., 2010). 24% of spinal cord injury in the united states occurred due to motor vehicle accident . In compared to the developed countries, fall from height is the most common cause for spinal cord injury then traffic accident among the developing countries (Chiu et al., 2010). In pakistan 48% spinal cord injury occurs due to fall from height and 25% occur due to traffic accident (Rathore et al., 2008). In South Asia, fall is the mojour cause for spinal cord injuries (Ning et al., 2012). Agarwal et al, (2007) stated that 55% of injury occurs due to fall and 13% for road traffic accident in India. As a developing and South Asain country, fall is major cause for spinal cord injury in Bangladesh and 43% due to fall from height, 20% cause of spinal cord injury are carry heavy load on head and 18% spinal cord occur due to road traffic accident (Hoque et al., 1999).

Spinal cord injuries are classified as Tetraplegia, Paraplegia, Complete and Incomplete. Tetraplegia refers to impairment or loss of motor and /or sensory functions in the cervical segments of the spinal cord due to damage or neural elements

within the spinal canal (Kirshblum et al., 2011). Spinal cord injury may be complete or incomplete, in the developed countries like Australia 62% are incomplete and 37 % are complete (Chiu et al., 2010). Complete injuries often damage the nerve root in the foramen and in incomplete lesion there is a partial preservation of sensory and/or motor function below the neurological level and in the lowest sacral segment (Krishblum et al., 2011). In Bangladesh, 78% are complete and 22% are incomplete whereas tetraplegia 49% and paraplegia 58% (Islam et al., 2011).

Women with spinal cord injuries are small numbers compared to men (Rutberg et al., 2008). Due to the minority status rehabilitation approaches are accommodate towards the male patients during hospital (Samuel et al., 2007).

Women's health is very important and rehabilitation is different from men (Samuel et al., 2007). Spinal cord injured women's responses to infections, diseases, medications and therapeutic interventions are often different from men with spinal cord injuries (Jackson & Wadley, 1999). Spinal cord injuries significantly alter the female reproductive system (Burns & Jackson, 2001). Women with physical disabilities due to spina bifida also cause alteration in the reproductive system (Jackson & Mott, 2007). Jackson & Wadley (1999) focused that woman with spinal cord injuries experiences gynecological problems which includes menstrual problems, vaginal bleeding, pelvic pain, gynecological malignancies as well as menopausal problems. Though sometimes these problems are seen in women with able bodies but these gynecological problems impact on spinal cord injuries very seriously and can hamper the rehabilitation process (Burns & Jackson, 2001).

Menstrual problem is a big problem because it is related to reproduction but spinal cord injuries delay the regular menstruation (Jackson & Wadley, 1999). But the injuries occurred before menarche or preadolescent girl it does not delay the menarche (Burns & Jackson, 2001). Women who have spina bifida the age of menarche is earlier but slightly later who have spinal cord injuries (Jackson & Mott, 2007). Among other physical disabilities like autism, cerebral palsy; menstruation problem including dysmenorrhea, irregular bleeding, and hygiene issues are the major gynecological issue (Burke et al., 2010).

Amenorrhoea (stopped the menstruation) is more common in women with newly spinal cord injuries and many women have been reported that in the acute situation following spinal cord injury amenorrhoea and galactorrhoea (spontaneous flow of milk in the nipple) are great complication (Rutberg et al., 2008). Burns & Jackson (2001) point out that within 3 to 6 months women will resume their menses. Menstruation irregularity is frequently seen along with physical disabilities, this has been reported in 55–82% of adolescents in the first 2 years post menarche, decreasing to 20% after around 4–5 years (Pillai et al., 2010). A study showed that due to physical trauma and surgical stress women suffer oligomenorrhoea or amenorrhoea within 3 to 6 month of injury, stress may lead to alterations in the activity of dopaminergic and opioid activity as well as the adrenocortical steroids and may also give rise to a presentation of menstrual dysfunction (To et al., 2000). Women who injured in the childbearing age are at high risk to transient increase in prolactine which is the part of the neurochemical response to the stressful situation and ultimately causes amenorrhoea (Rutberg et al., 2008).

Menstrual cramping is another problem which is common in women with able bodies but after injury menstrual cramping is less common because of loss of sensation (Jackson & Wadley, 1999). Premenstrual symptoms are less likely common in women with spinal cord injury (Burns & Jackson, 2001) but during and prior to menstruation complaints related to mood and behavior abnormalities are significantly more likely to present with adolescents with other physical disabilities (Pillai et al., 2010).

The major menstrual problem women with SCI face is hygienic management due to their immobility (Jackson & Mott, 2007). Women with physical disabilities faces problem during the time of menstruation, the start of menstruation can pose difficulties because of privacy issues and the need for attendants or family members in managing personal care (Pillai et al., 2010). So there is a risk for developing infection which is life threatening for their life (Wijgert et al., 2008).

Menaupause (permanent cessation of menses) after spinal cord injury are not common but a study showed that women face menopausal problem after SCI (Jackson & Wadley, 1999). Menopausal women with physical disabilities are at a risk for

osteoporosis and it occurs due to lack of weight bearing and transferring problem of women with spinal cord injury (Schopp et al., 2002).

Autonomic dysreflexia (AD) is a clinical emergency in individuals with spinal cord injury and commonly occurs in individuals with injury at level T6 and above (Richa, 2014). Another study suggested that bladder infection, bowel constipation and pressure sore acts as the causes of autonomic dysreflexia (Ient & Ion, 2000). Spinal cord injury at or above T6 prevents compensatory central modulation of this response through the descending pathways, as a result, life-threatening hypertension occur which is the major symptoms of AD (Burns & Jackson, 2001). Headache, flushing and sweating in the head and neck region, and the nasal congestion are the common symptoms for AD (Bycroft et al., 2005). Other associated symptoms are nausea, anxiety, malaise, Horner's syndrome (partial ptosis, miosis, anisocoria, hemifacial anhidrosis) and piloerections (Richa, 2014). Twitching and increased spasticity in all limbs may be shown. Women at or above the sixth thoracic level (T6) are particularly at a risk of AD (Burns & Jackson, 2001). Jackson & Wadley (1999) point out that one fourth of all women have been shown to exacerbation of autonomic symptoms, muscle spasm or spasticity and bladder spasm during, before or after the period of menstruation following SCI. But where or not these occur in women with spina bifida (Jackson & Mott, 2007).

After spinal cord injury urinary tract infection is frequently occur among women (Jackson & Wadley, 1999). UTI is still one of the leading causes of Morbidity (Salomon et al., 2006). From a study of Netherland, found that 49% spinal cord injury patients complain urinary tract infection (Haisma et al., 2007). A study on UK, reported that almost 52.3% patients with spinal cord injury suffer with urinary complications, among them 20% traumatic spinal cord injury patients report urinary tract infection (UTI) and 5.9% patients with non-traumatic spinal cord injury report urinary tract infection (Ruffion et al., 2013). In an Indian study reports, 90.62% patients report at least one complication and among them average 50% patients suffer with urinary tract infection (Gupta et al., 2009). The risk factors for UTI in the SCI population are over-distended bladder, vesicoureteral reflux, high pressure voiding, large post-void residuals, presence of stones in the urinary tract, and outlet obstruction (Bennett et al., 1995). The most common symptoms of UTI are painful urination,

fever, abdominal pain, frequent or urgent need to urinate, nausea, vomiting, malaise, fatigue, general illness and bowel incontinence (Sanzida, 2013).

Another infection women faces after injury is the vaginal yeast infection, women reported more episodes of vaginal yeast infection after SCI (Jackson & Wadley, 1999). A study of Africa shows that approximately 60% of all infections are occurred among women (Wijgert et al., 2008). Common symptoms for vaginal yeast infection are vaginal discharge, vaginal itching, burning sensation (Consolaro et al., 2004). There is significantly increase in the occurrence of vaginal yeast infection following SCI (Burns & Jackson, 2001). There is the increased risk of urinary tract infection in women following SCI leads to increased frequent use of antibiotics; chronic antibiotic use, poor ventilation and excess moisture build-up in wheelchair-bound patients are the causes for vaginal yeast infection (Jackson & Wadley, 1999). Burns & Jackson (2001) suggest that initial treatment with intravaginal creams or suppositories is reasonable for vaginal yeast infection otherwise it can lead to serious complication.

Chronic abdominal pain is a common symptoms after long term spinal cord injury and female suffered more than male, in case of women lower abdominal pain symptoms are frequently seen (Finnerup et al., 2008).

Women face these gynecological problems due to improper gynecological care and lack of sufficient settings and poor examination, though high quality gynecological care is essential for all women to maintain health (Schopp et al., 2002). There are more barriers which are responsible for these problems like environmental access barriers, attitudinal barriers, financial barriers (which is the most common barriers after spinal cord injury to complete rehabilitation) and informational barriers (Schopp et al., 2002).

### **3.1 Study design**

A cross sectional study was chosen to conduct the study because this type of epidemiological study is simple. This design is used for descriptive or observational study. Through this type of study all the data is collected at one time or within a short time. This study is used to gather information from people with important health related conditions.

### **3.2 Study site**

The study was conducted at the spinal cord injury (SCI) unit of the physiotherapy department of the Center for the Rehabilitation of Paralyzed (CRP), Chapain, Savar, Dhaka, 1243. This is the only rehabilitation centre for spinal cord injury patients in Bangladesh. This centre has 100 beds for male and female patients. Female patients have two different wards. Data were collected from female ward. At first a standard questionnaire was developed and then selected the female patients with SCI unit as a sample for data collection.

### **3.3 Study population and sample**

A population is the total group or set of events or totality of the observation on which a research is carried out. Patients who were admitted at Center for the Rehabilitation of Paralyzed (CRP) were the population to carry out this study. About 40 female patients were selected as the sample for this study.

### **3.4 Sampling technique**

A convenient sampling technique was selected by the researcher to draw out the sample from the population. The convenient technique is the process where every single subject of the population has an equal chance of being selected as a sample. In this technique it was easy to collect data from the sample within limited time.



### **3.5 Inclusion criteria**

- Patient at least 2 months post SCI were included because up to 42 days patients are in acute stage and are not stable.
- Age range: From 15 to 50 years because this is the reproductive age of women of our country.
- Both paraplegia and tetraplegia patients were included due to the small amount of sample.
- Both complete and incomplete patients were included for increasing the number of sample size.
- Both married and unmarried patients were included.

### **3.6 Exclusion criteria**

- Patients within 2 month of injury were excluded because this is the acute stage of spinal cord injury.
- Age less than 15 years and more than 50 years were excluded.
- Male patients were excluded because gynecological problem related with female.
- Patients with mental problems were excluded due to their lack of cooperation.
- Patient who have gynecological problem before injury were excluded to find out exact problems.

### **3.7 Sample size**

24 female patients from the spinal cord injury (SCI) unit of CRP were selected for data collection through convenient sampling technique.

### **3.8 Data collection method and tools**

The face to face interview technique was used to collect data. A semi-structured questionnaire was used to collect information related to the study. Data were collected from the female ward through individual interviewing process in calm environment. The duration of data collection was 15-20 minutes for every individual patient. A question paper, inform consent, pen, pencil, clip, board etc were used to collect information from the participants.

### **3.9 Data analysis**

Data were analyzed by the SPSS (Statistical Package of Social Science) software version 16.0. The graph technique were used for analyzing data, calculated as percentages, and presented this, using bar and pie charts by using Microsoft Office Excel 2007. SPSS is a comprehensive and flexible statistical analysis and data management solution.

### **3.10 Ethical consideration**

Bangladesh Medical Research Council (BMRC) guide line and World Health Organization (WHO) research guideline were followed to conduct this study. This protocol presentation was firstly submitted to the Institutional Review Board (IRB) of BHPI and initial permission was taken. Then permission was taken from the Head, Department of Physiotherapy, BHPI and Head of the Department of physiotherapy, CRP before data collection. Permission was taken from the In-charge of SCI unit for data collection from the patients. The participants were explained about the purpose and goal of the study before collecting data. It was ensured to the participants that the entire field notes, transcripts and all the necessary information will be kept in a locker to maintain confidentiality and all information will be destroyed after completion of the study. The participants were also assured that their comments will not affect them about any bad thing. Written consent form was given to all participants prior to completion of the questionnaire. Before asking questions participant's role in this study and the purpose of the study were explained to the all participants. A written consent was received from every participant including a signature. Some of the participants were illiterate and some were not able to give signature for their physical disabilities in that cases participant's carer were allowed to give signature. All the participants understood about the consent form, and that their participation was on voluntary basis. The participants were informed clearly that their information would be kept confidential. It was assured to the participants that the study would not be harmful for them. It was explained that there might not be a direct benefit from the study for these participants, but in the future cases, others like them might get benefit from it. The participants had the rights to withdraw consent and discontinue

participation at any time without prejudice to present or future care at the spinal cord injury (SCI) unit of CRP. Information from this study was anonymously coded to ensure confidentiality and was not personally identified in any publication containing the result of this study.

Results that were obtained from this study present in this chapter. These results were based on different types of variables such as socio-demographic variables, injury related variables and gynecological related variables. Here descriptive data were collected and presented by pie chart, bar chart and tables.

#### 4.1 Age group

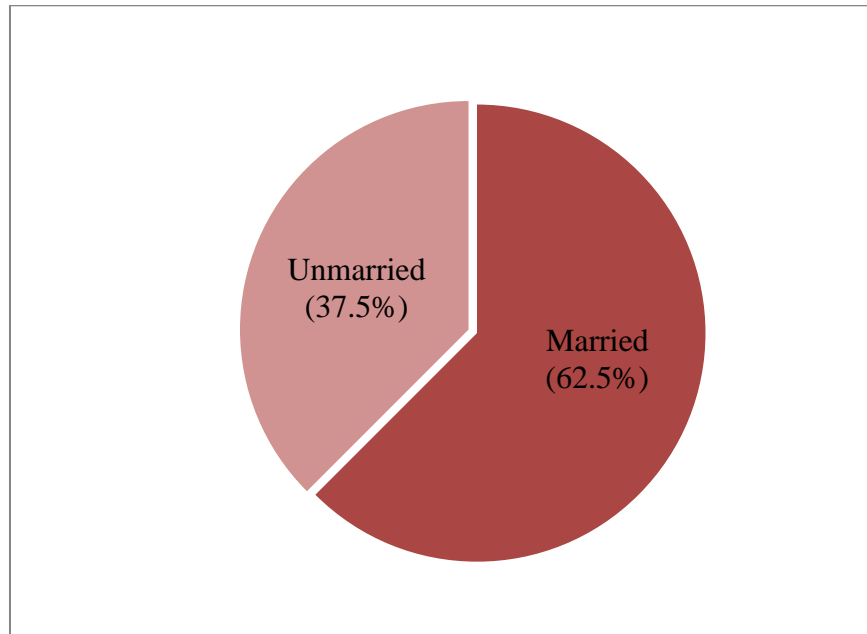
The study was conducted with 24 participants. Among the participants mean age was 26.58 years, mode 15 years and standard deviation 9.86 years. Most of the participants were 15-24 years range that was almost 41.7% (n=10), 25-34 years were 37.5% (n=9) and small amount in 35-44 years & 45- 50 years, 12.5% (n=3) and 8.3% (n=2) respectively (Table-1).

Age group (years)	Number (n)	Percentage (%)
15-24	10	41.7
25-34	9	37.5
35-44	3	12.5
45-50	2	8.3
<b>Total</b>	<b>24</b>	<b>100</b>

**Table -1: Age group of the participants**

## 4.2 Marital status

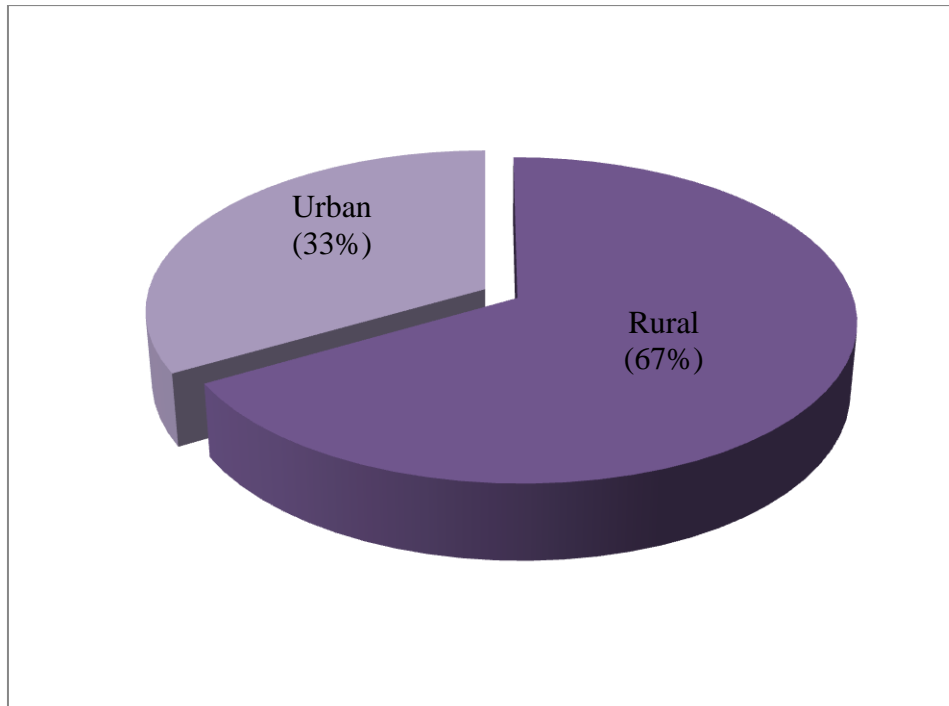
The study showed that among the participants majority were married. Here 62.5% (n=15) were married and 37.5% were unmarried. So the result showed that married and unmarried ratio was about 3:2 (Figure-1).



**Figure- 1: Marital status of the participants**

### 4.3 Residential Area

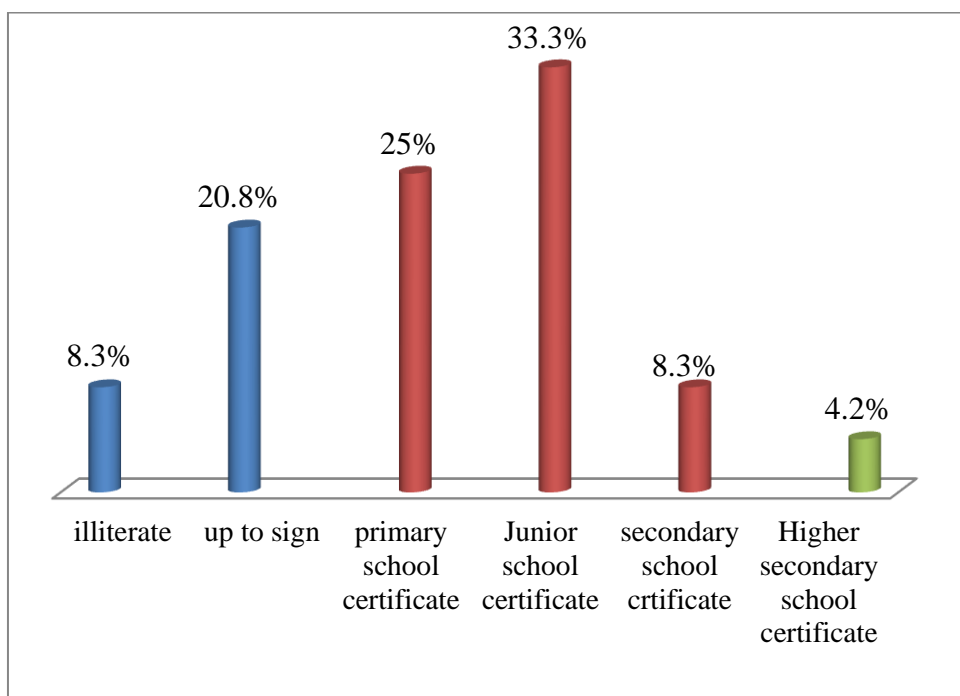
The study focused that, the people, who lived in rural, were more affected than the people who lived in urban. Among the participants approximately 66.7% (n=16) were lived in rural and 33.3% (n=8) were lived in urban area (Figure-2).



**Figure- 2: Residential area of the participants**

#### 4.4 Educational status

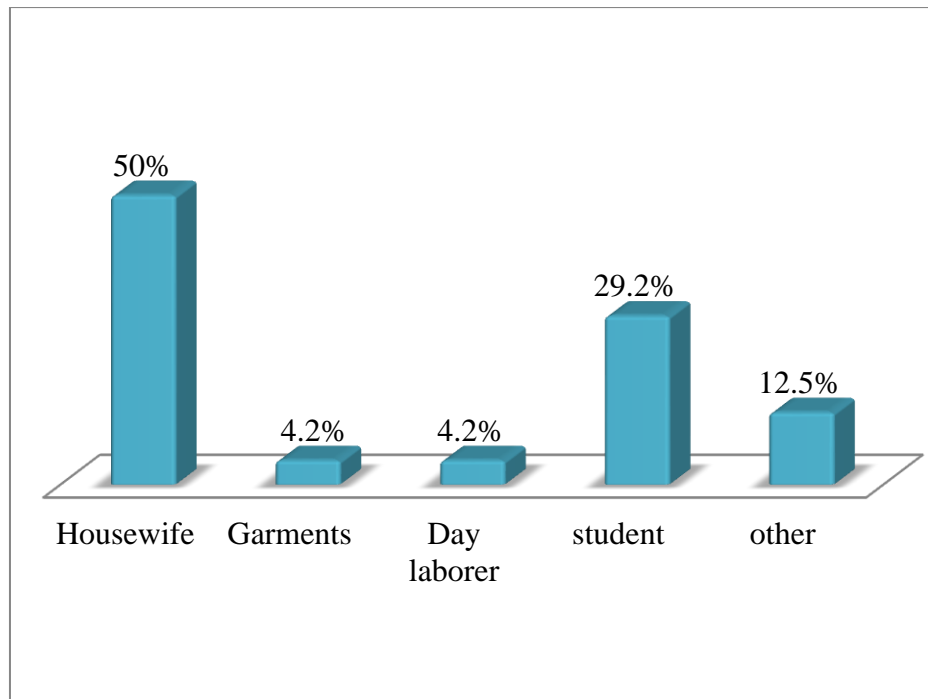
The chart shows that, among 24 (100%) participants most of the participant's educational level were in junior school certificate (JSC) 33.3% (n=8). 25 % (n=6) were primary school certificate (PSC) level, can only give the signature 20.8% (n=5). Higher education was poor among them only 4.2 % (n=1) was HSC. 8.3% (n=2) were under SSC (Figure-3).



**Figure- 3: Educational status of the participants with percentage.**

#### 4.5 Occupation

From the study it was found that among the participants 50% (n=12) were housewife, students were 29.2% (n=7), garments worker and day laborer were 4.2% (n=1). Resting were involved in other profession (Figure-4).



**Figure- 4: Occupation of the participants**



#### 4.6 Income of the participants

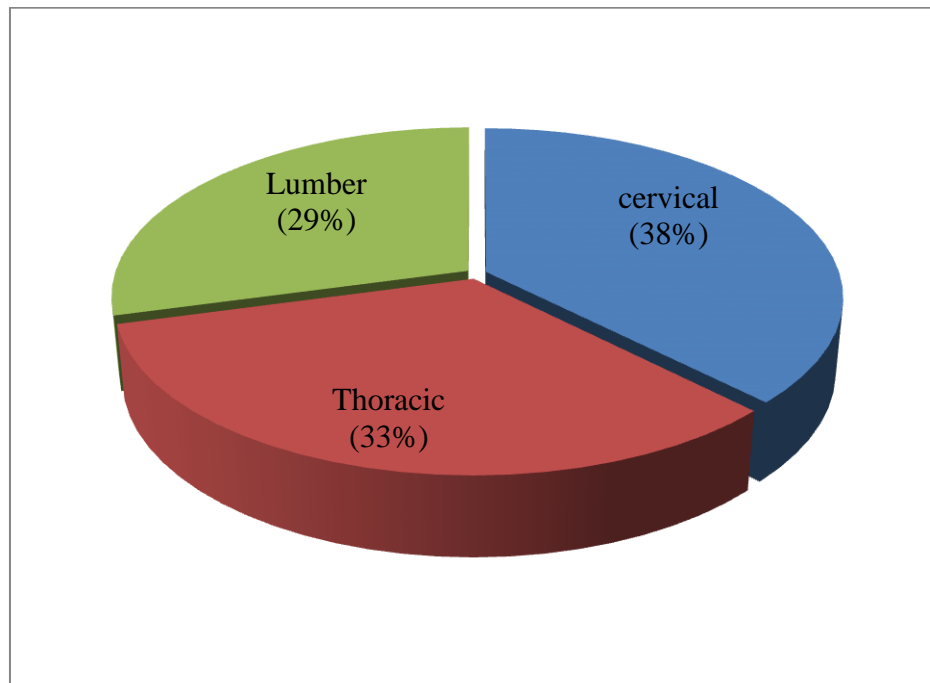
This study showed that monthly family income of the participants was not sufficient. Participant's highest monthly income were range from 5000-7000 taka and this focused 58.3% (n=14), then 2000-4000 taka had 33.3% (n=8). Small numbers had 8000-1000 taka 8.3% (n=2) (Table-2).

<b>Income (taka)</b>	<b>Number (n)</b>	<b>Percentage (%)</b>
2000-4000	8	58.3%
5000-7000	14	33.3%
8000-1000	2	8.3%
<b>Total</b>	<b>24</b>	<b>100</b>

**Table-2: Monthly income of the participants**

#### 4.7 Skeletal level of injury

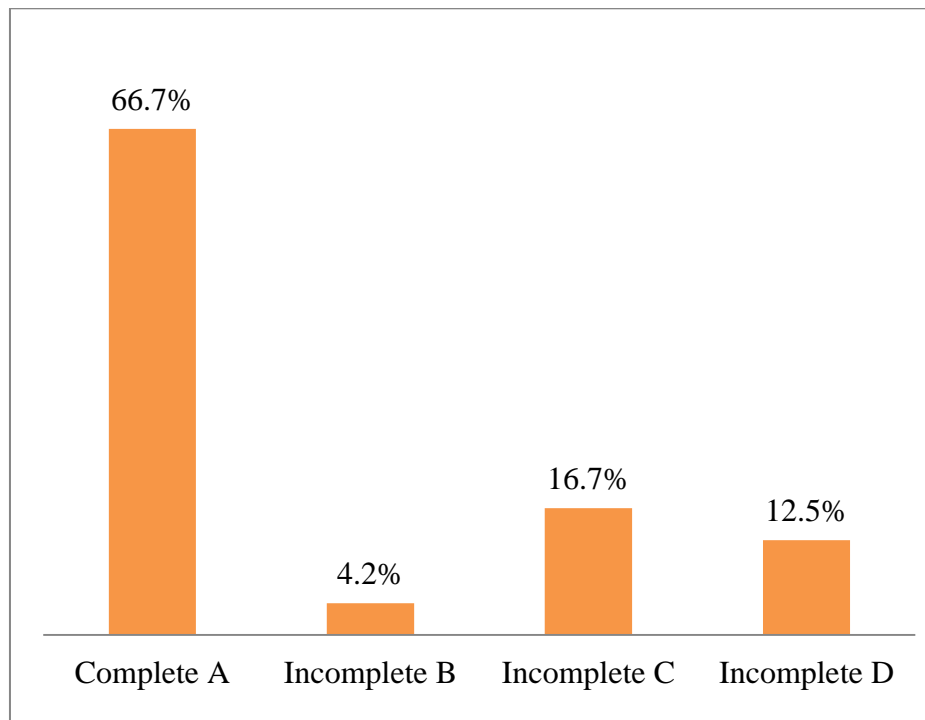
Among 24 participants 37.5% (n=9) had injuries in the cervical area, thoracic area involvement were 33.3% (n=8) and lumber area involve were 29.2% (n=7). Therefore area involvement were cervical area > thoracic area > lumber area (Figure-5).



**Figure- 5: Skeletal level of the participants**

#### 4.8 ASIA Scale

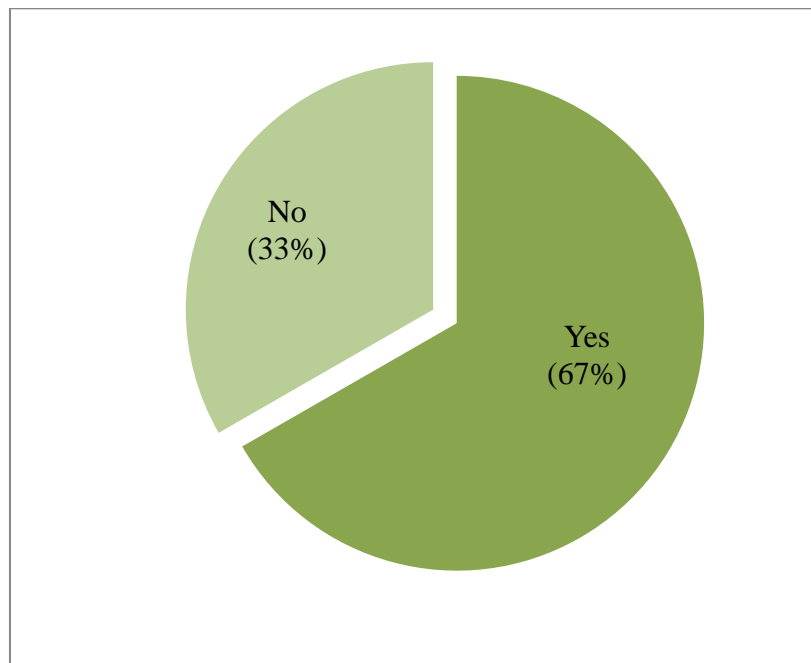
In this study, nearly 66.7% (n=16) were complete-A, 4.2% (n=1) were incomplete-B, 16.7% (n=4) participants were incomplete-C, 12.5% (n=3) were incomplete-D but there were no normal participants according to ASIA scale. So the study showed that after spinal cord injury more were complete according to ASIA scale (Figure-6).



**Figure– 6: ASIA Scale of the participants**

#### 4.9 Prevalence of gynecological problem

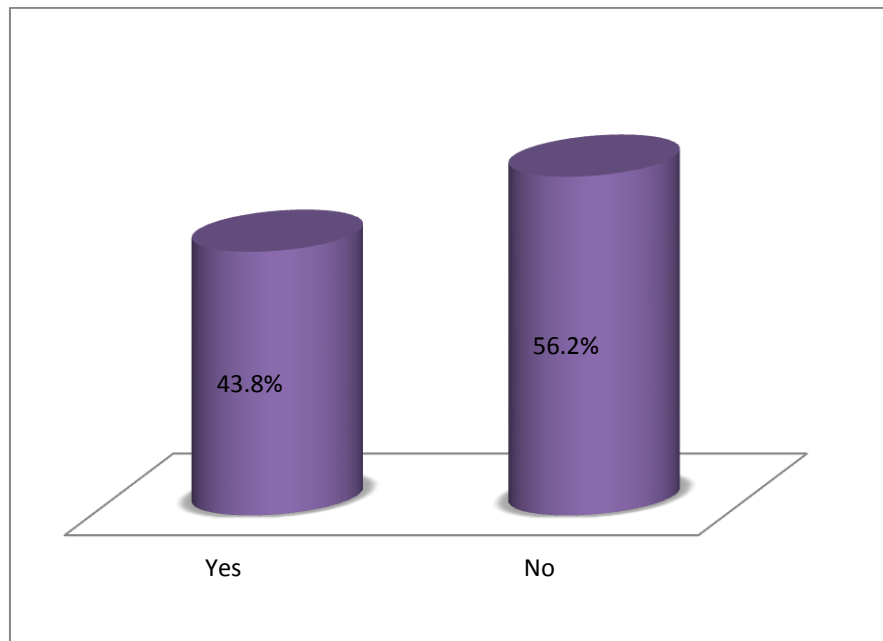
Outcome showed that 66.7% (n=16) out of 24 participants suffered from gynecological problems and 33.3% had no such problems. So it was focused that due to spinal cord injury most of the participants had some gynecological problems (Figure-7).



**Figure- 7: Prevalence of gynecological problems**

#### 4.10 Pelvic pain

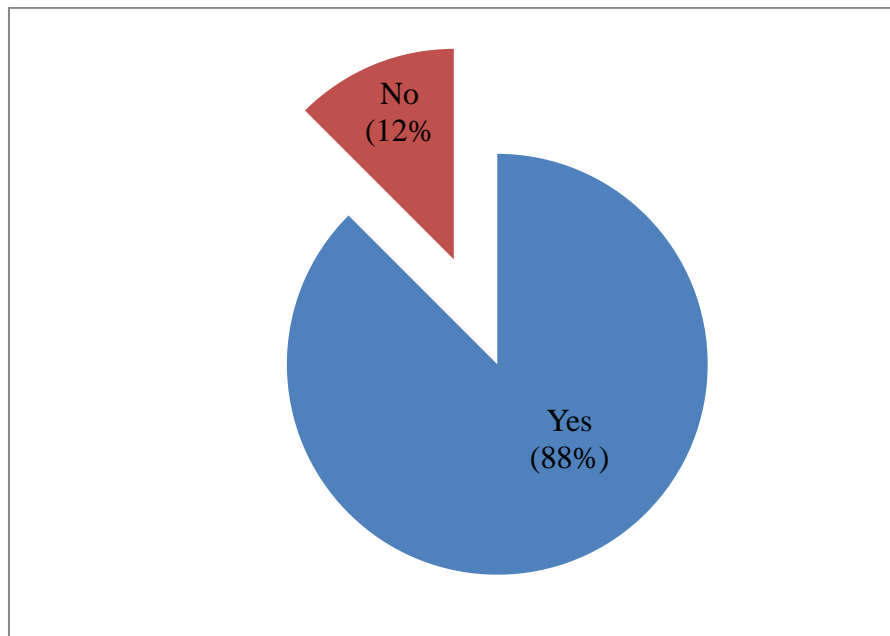
Participants those who had gynecological problems, among them 43.8% (n=7) had pelvic pain and 56.2% (n=9) had no complain of pelvic pain (Figure-8).



**Figure-8: Percentage of pelvic pain among the participants**

#### 4.11 Burning sensation during urination

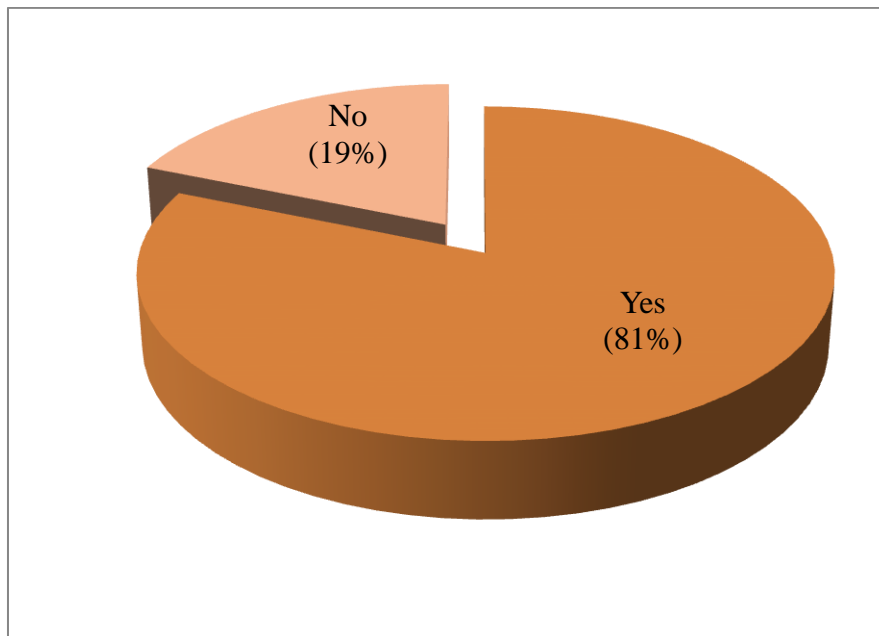
In this study it is found that among 16 participants who had gynecological problems, complain burning sensation during urination were 87.5% (n=14) and 12.5% (n=2) were no complain (Figure-9).



**Figure -9: Burning sensation among the participants with percentage**

#### 4.12 Pain during urinate

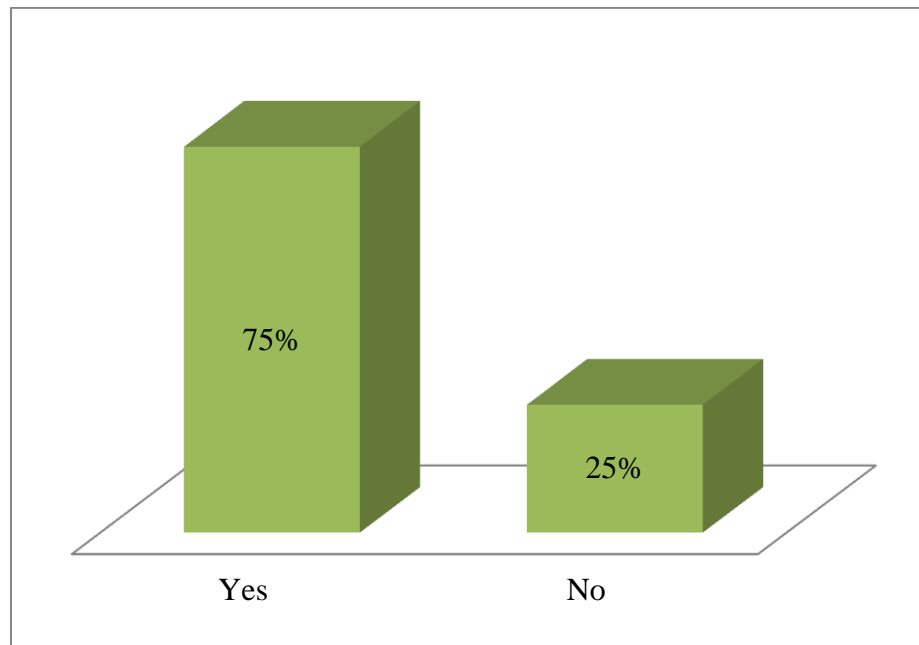
Out of 16 participants suffered from gynecological problems 81.2% (n=13) complain pain during urination and rest of 18.8% (n=3) were no complain of pain (Figure-10).



**Figure- 10: Percentage of pain during urinate**

### 4.13 Stop menstruation

Outcome showed that most of the participant's menstruation was stop after injury. 75% (n=12) complain that their menstruation was stop after injury, out of 16 and rest 25% (n=4) had regular menstruation after injury (Figure-11).

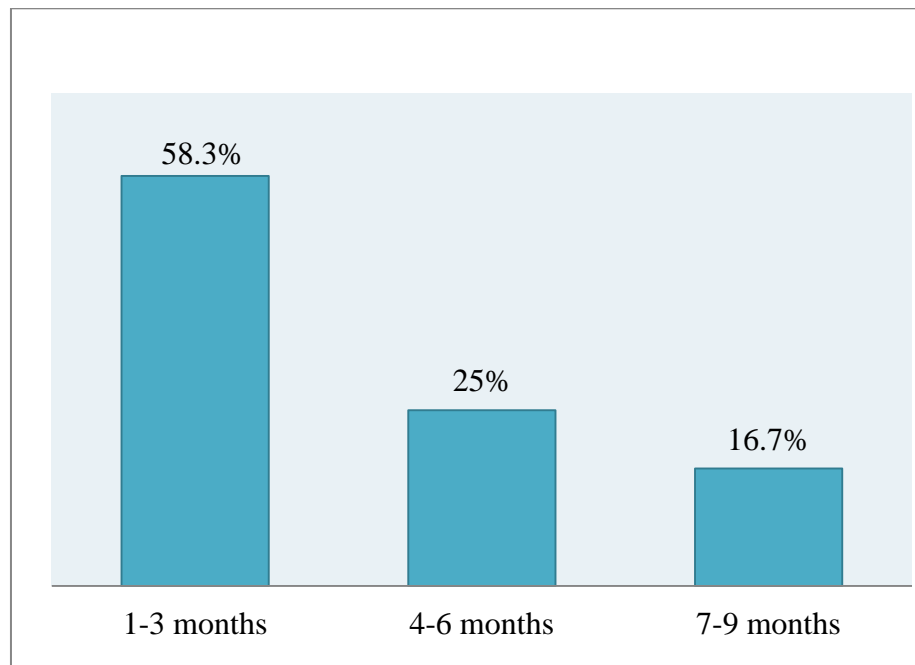


**Figure-11: Percentage of stop of menstruation among the participants**



#### 4.14 Duration of stop of menstruation

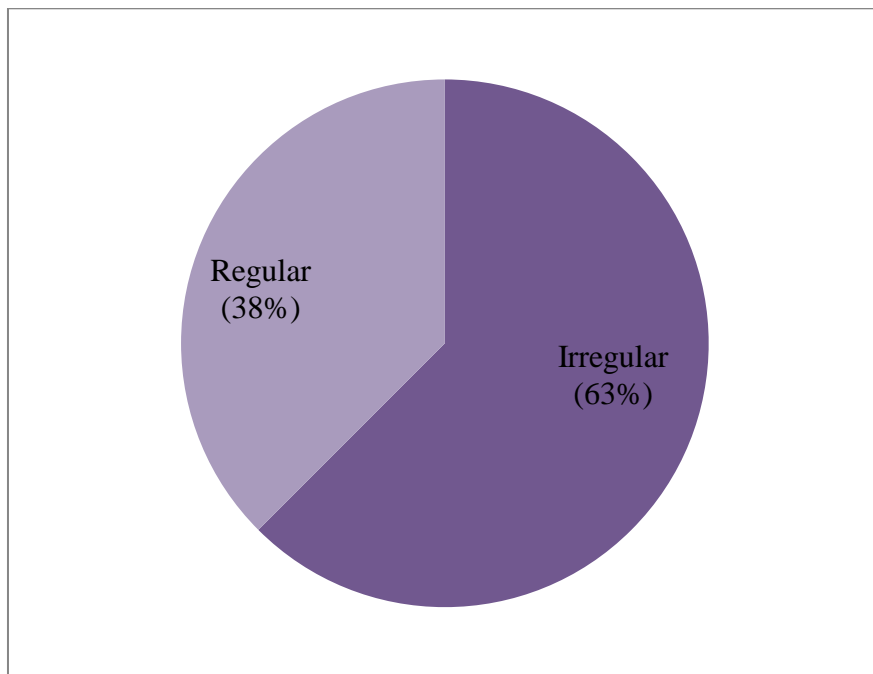
The study showed that range of stop of menstruation was 1-9 months. Among the 12 participants who had stop menstruation after injury, maximum participant's 58.3% (n=7) menstruation was stop after injury for 1-3 months. 25% (n=3) had stop menstruation for 4-6 months and 16.7% (n=2) had 7-9 months (Figure-12).



**Figure-12: Duration of stop of menstruation after injury**

#### 4.15 Regular menstruation and premenstrual symptoms

The study showed that among the 16 participants 10 participants (62.5%) resume their menstruation after stopping of some months. 37.5% (n=6) menstruation cannot resume. Among the participants whose menstruation resume, 6 of them had premenstrual symptoms (Figure-13).



**Figure-13: Percentage of regular menstruation**

#### 4.16 Symptoms fell before, during and after menstruation

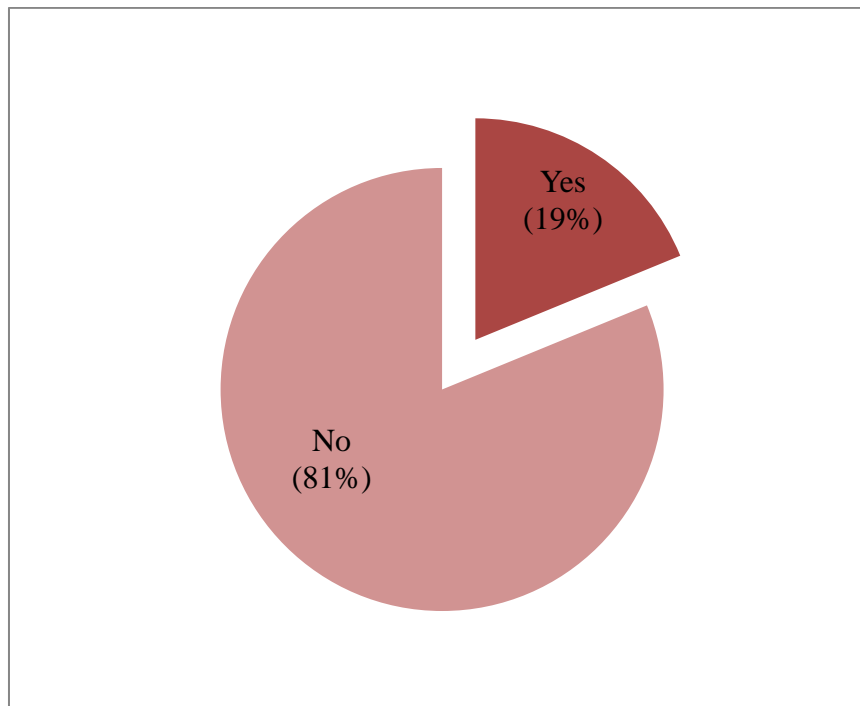
The study proved that 10 participants had regular menstruation after stopping some months. Some symptoms were common before, during and after menstruation. Symptoms involved headache, sweating, cramping, bladder spasm, muscle spasticity, swelling in the lower limbs among them. Symptoms with percentage listed below (Table-3).

<b>Symptoms</b>	<b>Yes</b>	<b>No</b>
	<b>Number (n) &amp; Percentage (%)</b>	<b>Number (n) &amp; Percentage (%)</b>
Cramping with periods	5(31.2%)	11 (68.8%)
Headache	7 (43.8%)	9 (56.2%)
Sweating	7 (43.8%)	9 (56.2%)
Bladder spasm	5 (31.2%)	11 (68.8%)
Muscle spasticity	5 (31.2%)	11 (68.8%)
Swelling in the lowerlimb	2 (12.5%)	14 (87.5%)

**Table-3: Symptoms of menstruation**

#### 4.17 Hygiene maintain

In this study it was showed that very few participants maintain hygiene during the menstrual period. Only 18.8% (n=3) maintain hygiene and 81.2% could not maintain hygiene during that period (Figure-14)



**Figure-14: Percentage of maintenance of hygiene during menstruation**

#### **4.18 Vaginal discharge & other symptoms in the vagina**

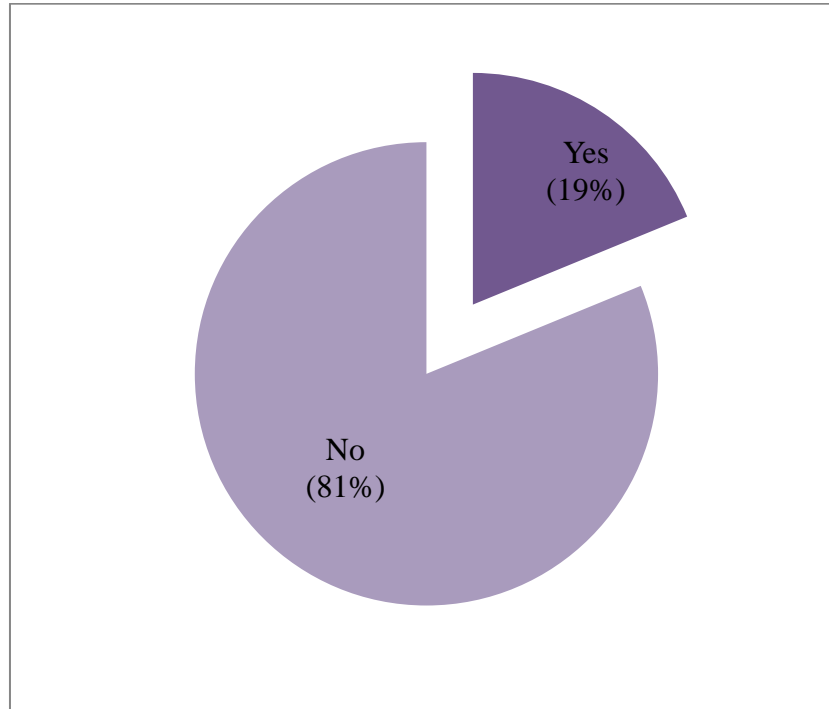
Among the participants who had gynecological problems, vaginal discharge problem had common in all of them. 6.2% (n=1) had rash in the vagina and 12.5% (n=2) had burning sensation in the vagina.

#### **4.19 Stress problem**

This study focused that stress problem was the most common problem among the participants. All the participants had stress problem after spinal cord injury and this causes stop menstruation.

#### 4.20 Receiving gynecological treatment

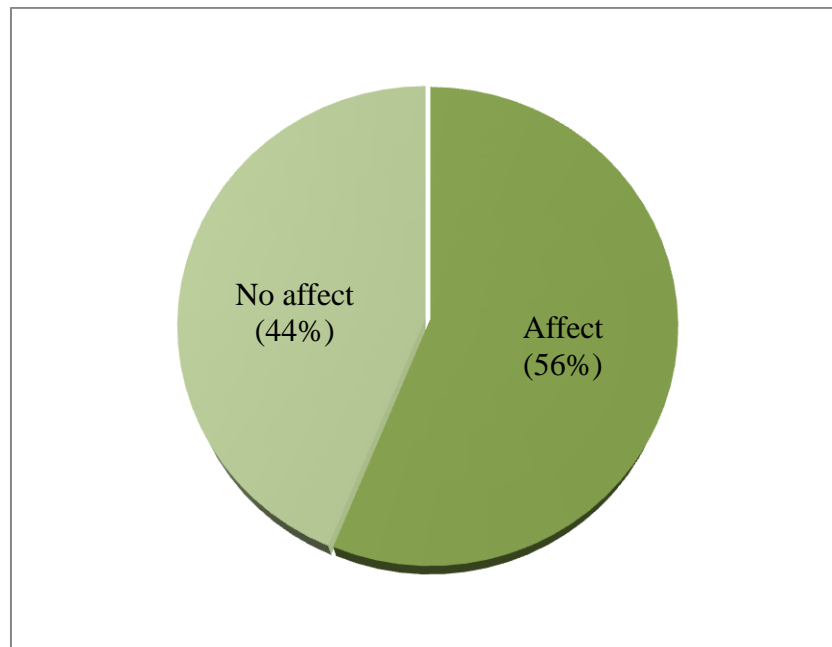
The study showed that only 18.8% (n=3) receive gynecological treatment for their problems and 81.2% (n=13) were not receive treatment those who had gynecological problem (Figure-15).



**Figure- 15: Percentage of the receiving gynecological treatment**

#### 4.21 Affect physiotherapy treatment

Among the 16 participants who had gynecological problems, 56.2% reported that these gynecological problems affect their physiotherapy treatment. They were not perform exercise due to their problems (Figure-16)



**Figure-16: Percentage of affects the physiotherapy treatment**

Women's health is an important issues those who have spinal cord injury (Jackson & Mott, 2007). Gynecological problem is frequently seen in women with spinal cord injury (Jackson & Wadley, 1999). The aim of the study was to find out the number of women who had gynecological problems, their socio demography, identify the gynecological problems and injury related problems. In the study most of the participants were 15-24 years range that was almost (41.7%) , 25-34 years were (37.5%) and small amount in 35-44 years & 45- 50 years, (12.5%) and (8.3%) respectively. Recent study showed that responsible age group of spinal cord injuries are 25- 29 years in Bangladesh (Islam et al., 2011). Among the participants majority were married. Here 62.5% (n=15) were married and 37.5% (n=9) were unmarried. Most of the participants were lived in the rural area (66.7%) and (33.3%) were lived in the urban area. An epidemiological study in India had been found that approximate 20,000 new cases of SCI were added every year and among them 60-70% were poor villagers (Singh et al., 2003). Study explored that among 24 (100%) participants in this study most of the participants were in junior school certificate (JSC) (33.3%), (25 %) were primary school certificate (PSC), can only give the signature (20.8%). Higher education was poor among them only (4.2 %) was HSC, (8.3%) were in SSC level. The study conducted with female patients as the study find out that among the participants 50% were housewife, 29.2% were student, garments worker and day laborer were small amount (4.2%) were both and other professionals were 12.5%. As they were female and they were not involved in the earning process. Their family income was poor and (58.3%) had 5000- 7000 taka monthly income. Among 24 participants, 37.5% had injuries in the cervical area, thoracic area involvement (33.3%) and lumber area involve (29.2%). The study proved that nearly 66.7% were complete-A, 2% were incomplete-B, 16.7% participants were incomplete-C, 12.5% were incomplete-D but there were no normal participants according to ASIA scale. The study showed that gynecological problems were prevalent among the female spinal cord injury patients. Jackson & Wadley (1999) point out that spinal cord injured had gynecological problems. Outcome showed that 66.7% out of 24 participants suffered from gynecological problems and 33.3% had no such problems. Participants who had gynecological problems, 43.8% had pelvic pain and 56.2% had



no complain of pelvic pain. Many of the participants can not feel the symptoms of pain due to their impaired sensory function but before injury this symptoms may be felt by the participants. Near about 88% (n=14) participants complain burning sensation during urination and 81.2% (n=13) complain pain during urination. Sanzida (2013) focused that burning sensation, painful urination, fever, abdominal pain, frequent or urgent need to urinate, nausea, vomiting, malaise, fatigue, general illness and bowel incontinence are the most common symptoms for UTI. Outcome showed that most of the participant's menstruation was stop after injury. About 75% complain that their menstruation were stop after injury. Rutberg et al, (2008) point out that after spinal cord injuries 3-6 months stop menstruation of that injured women. From the study it was found that 58.3% had stop menstruation after injury for 1-3 months, 25% had 4-6 months and 16.7% had 7-9 months stop their menstruation. It was very common problems that after SCI, women were tensed about their accidents and stress was the common phenomenon. All the participants who had stopped menstruation after spinal cord injury were more stressed. A study showed that due to physical trauma and surgical stress, women's menstruation was stopped for few months (To et al., 2000). Among the 16 participants 10 participant's (62.5%) menstruation resume after stopping of some months. Approximately 37.5% participant's menstruation cannot resume. But it is not focused that their menstruation were totally stopped because maximum participants were within 7-8 months after injury. During, before and after menstruation some symptoms were marked among the participants. Very few participants had cramping during menstruation. About 31.2% had cramping during menstruation and 62.5% cannot understand before menstruation or no premenstrual symptoms. Another symptom were headache, sweating, bladder spasm, muscle spasticity, swelling in the lower limb that the women felt during, before and after menstruation. SCI related symptoms are provoked during the time of menstruation (Jackson & Wadley, 1999). Among the participants almost 43.8% had headache and sweating, 31.2% had both bladder spasm and muscle spasticity, swelling in the lower limb felt by 12.5%. The most common problem during the time of menstruation was hygiene maintain. Approximately 81% participants cannot maintain their hygiene during the time of menstruation for their physical disability. Vaginal discharge was another complains. All the participants complain that large amount of vaginal discharge secreted. Secretion of vaginal discharge is the phenomenon of the vaginal yeast infection which is more frequent after SCI (Jackson

& Mott, 2007). The study showed that only 18.8% receive gynecological treatment for their problems and 81.2% were not who had gynecological problem. The study focused that this problems affect the physiotherapy treatment. But it is essential to manage their SCI related problem. Women who had gynecological problems among them 56.2% reported that this gynecological problem affect their physiotherapy treatment.

## **Limitations**

The first limitation of this study was sample size. It was taken only 24 samples. There was very limited time for data collection. This was another limitation. This study was performed based on only clinical manifestation but no appropriate investigation support. Only symptoms basis question was develop though it was diagnostic basis. Another major limitation was time. The period was very limited to conduct the research project on this topic. As the study period short so the adequate number of sample could not arrange for the study. The study was conducted at Centre for the Rehabilitation of the paralyzed (CRP) which may not represent the whole country. Patients were not aware about their health condition so appropriate information could not find out.

### 6.1 Conclusion

Spinal cord injury is a catastrophic, devastating and life altering even. Annual incidence of SCI occurs in various countries average up to 15-40 cases per million. But in Bangladesh there is no well proper evidence or documents about spinal cord injury and also lack of specialized care for spinal cord injured patients. Due to SCI many women faces some gynecological problems and these problems affects their rehabilitation. These problems also turn into very serious complication, results in long term disability, mortality and morbidity and a burden for the family as well as community if untreated.

On the other the other hand female affected rate is smaller than male so the hospital settings are based on male that created the bad effect in the rehabilitation process. Through this study gynecological problems among spinal cord injured patients were find out. Women who had gynecological problems should receive treatment during their rehabilitation time. And these women should be aware about their problems and maintain hygiene.

Physiotherapists have an important role in rehabilitation of these women. This study gives more information about gynecological problems among spinal cord injured women. Also aware the physiotherapist about these problems and therefore, they give more concern towards their patients and solve SCI related gynecological problems.

## **6.2 Recommendation**

For further studies, following recommendation may made,

It is recommended to take more samples for generating the result and try to make more valid and reliable study. Longer time frame may prove in showing the gynecological problem. It is also recommended to do further research in the community level for finding the other problem. It is recommended to create gynecological setting and regular routine checkup of these women including pelvic examination and microbiological examination. Need to arrange awareness program among the female patients about their problem and provide health education so that they can know their problems. It is also recommended to take more samples for pilot study to establish the accuracy of the questionnaire.

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## Appendix

### সম্মতিপত্র

আসসালামুআলাইকুম/নমস্কার, আমি পারভিন আক্তার, ৪র্থবর্ষ, ঢাকা বিশ্ববিদ্যালয়ের মেডিসিন অনুষদের অধীনে বাংলাদেশ হেল্থ প্রফেশনস ইনস্টিটিউট (বিএইচপিআই) এর বি.এস.সি. ফিজিওথেরাপিবিভাগ এর একজন শিক্ষার্থী। অধ্যয়নের অংশ হিসেবে আমাকে একটি গবেষণা সম্পাদন করতে হবে এবং এটা আমার প্রাতিষ্ঠানিক কাজের একটা অংশ। নিম্নোক্ত তথ্যাদি পাঠ করার পর অংশগ্রহণকারীদের গবেষণায় অংশগ্রহনের জন্য অনুরোধ করা হলো:

আমার গবেষণার শিরোনাম "**মেরুরঙ্গুতে আঘাত প্রাপ্ত রোগীদের স্ত্রীরোগবিদ্যা সমস্যার ব্যাপকতা**"। এই গবেষণার মাধ্যমে আমি মেরুরঙ্গুতে আঘাত প্রাপ্ত রোগীদের মধ্যে কয়জনের এবং কি ধরনের স্ত্রী রোগ সমস্যা হয় তা খুঁজে বের করার চেষ্টা করবো। যদি আমার গবেষণাটি সফলভাবে সম্পূর্ণ করতে পারি তবে মেরুরঙ্গুতে আঘাত প্রাপ্ত রোগীদের স্ত্রীরোগ সমস্যাগুলো উল্লোচিত হবে এবং এটি হবে একটি পরীক্ষামূলক প্রমাণ।

আমার গবেষণা প্রকল্প বাস্তবায়ন করার জন্য রোগীদের কাছ থেকে তথ্য সংগ্রহ করা প্রয়োজন। আমার গবেষণায় অংশগ্রহণে আপনার কোন ক্ষতি বা বিপদ হবেনা। আপনি যেকোনো সময় নিজেকে এ গবেষণা থেকে প্রত্যাহার করতে পারেন। এই গবেষণার প্রাপ্ত তথ্য সম্পূর্ণভাবে গোপনীয় থাকবে এবং অংশগ্রহণকারীর ব্যক্তিগত তথ্য আপনার অনুমতি ব্যতিরেকে অন্যকোথাও প্রকাশ করা হবেনা।

এই গবেষণা সম্পর্কে যদি আপনার কোনো জিজ্ঞাসা থাকে তবে আপনি অনুগ্রহপূর্বক যোগাযোগ করতে পারেন আমার অথবা মোঃ ওবায়দুল হক, সহযোগী অধ্যাপক ও বিভাগীয় প্রধান, ফিজিওথেরাপিবিভাগ, বিএইচপিআই, সিআরপি, সাভার, ঢাকা-১৩৪৩।

শুরু করার আগে আপনার কোন প্রশ্ন আছে কি?

আমি কি শুরু করতে পারি ?

হ্যাঁ

না

অংশগ্রহণকারী (স্বাক্ষরওতারিখ) .....

গবেষক (স্বাক্ষরওতারিখ) .....

সাক্ষীরস্বাক্ষর .....

## Verbal Consent Form

Assalamualaikum\ Namashker,

I am Parvin Akther, the 4th year B.Sc. (Hon's) in Physiotherapy student of Bangladesh Health Professions Institute (BHPI) under Medicine faculty of University of Dhaka. To obtain my Bachelor degree, I shall have to conduct a research and it is a part of my study. The participants are requested to participate in the study after reading the following.

My research title is “**Prevalence of gynecological problems of patients with spinal cord injury**”. Through this study I will find the prevalence of gynecological problems among spinal cord injury patients. If I can complete the study successfully, common gynecological problems may be drawn out due to spinal cord injury. To implement my research project, I need to collect data from SCI unit, CRP. Therefore, you could be one of my valuable subjects for the study.

I am committed that the study will not pose any harm or risk to you. You have the absolute right to withdraw or discontinue at any time without any hesitation or risk. I will keep all the information confidential which I obtained from you and personal identification of the participant would not be published anywhere.

If you have any query about the study, you may contact with me and/or Md. Obaidul Haque, Associate Professor and Head of the Physiotherapy Department, Bangladesh Health Professions Institute (BHPI), Savar, Dhaka-1343.

Do you have any questions before I start?

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

Yes.....,                      No.....

Signature of the participant & Date.....

Signature of the researcher & Date.....

Signature of the witness & Date .....

"মেরুরক্ষুতে আঘাতপ্রাপ্ত রোগীদের স্ত্রীরোগবিদ্যা সমস্যার ব্যাপকতা"

প্রশ্নাবলি/প্রশ্নমালা

<p style="text-align: center;"><b>সাক্ষাৎকার সময়সূচি</b></p> <p style="text-align: center;"><b>পর্ব- ১: রোগীর পরিচয়</b></p> <p style="text-align: center;"><b>(রোগী অথবা রোগির সহকারি তথ্য প্রদান করবেন)</b></p>			
১.১	সনাক্তকরণ নম্বর:	সাক্ষাতের তারিখ :	
১.২	ঠিকানা:	ফোন নম্বর :	
১.৩	অনুমতি নেয়া হল: হ্যাঁ/ না		
<p style="text-align: center;"><b>পর্ব- ২: রোগীর আর্থসামাজিক অবস্থার তথ্য</b></p> <p style="text-align: center;"><b>(রোগী অথবা রোগীর সহকারি তথ্য প্রদান করবেন)</b></p>			
২.১	বয়স: ..... বছর		
২.২	বৈবাহিক অবস্থা:	<input type="checkbox"/> বিবাহিত <input type="checkbox"/> অবিবাহিত	০১ ০২
২.৩	আপনার শিক্ষাগত যোগ্যতা কি?	<input type="checkbox"/> নিরক্ষর <input type="checkbox"/> অক্ষরজ্ঞান সম্পন্ন স্বাক্ষর প্রাথমিক সমাপনি জুনিয়র স্কুল সার্টিফিকেট মাধ্যমিক স্কুল সার্টিফিকেট উচ্চ মাধ্যমিক স্কুল সার্টিফিকেট উচ্চতর শিক্ষা	০১ ০২ ০৩ ০৪ ০৫ ০৬ ০৭

২.৪	আপনার পেশা কি?	<input type="checkbox"/> গৃহিণি <input type="checkbox"/> গার্মেন্টস শ্রমিক <input type="checkbox"/> দিন মজুর <input type="checkbox"/> শিক্ষক <input type="checkbox"/> ছাত্র/ছাত্রী <input type="checkbox"/> বেকার <input type="checkbox"/> অন্যান্য	০১ ০২ ০৩ ০৪ ০৫ ০৬ ০৭
২.৫	আপনার মাসিক আয় কত?	..... টাকা	
২.৬	আবাসিক এলাকা?	<input type="checkbox"/> গ্রাম <input type="checkbox"/> শহর	০১ ০২

**পর্ব- ৩: ফিজিওথেরাপি সম্পর্কিত তথ্যাবলি**  
(রোগী অথবা রোগীর সহকারি /নথিপত্র থেকে তথ্য নেয়া হবে)

নং	প্রশ্নমালা	উত্তর	কোড
	আঘাতের ইতিহাস		
৩.১	আঘাতের তারিখ		
৩.২	ভর্তির তারিখ		

৩.৩	মেরুদণ্ডের কোন অংশে আঘাত পেয়েছেন?	<input type="checkbox"/> গ্রিবাদেশিয় <input type="checkbox"/> বক্ষদেশিয় <input type="checkbox"/> কটিদেশিয় <input type="checkbox"/> শ্রনিদেশিয়	০১ ০২ ০৩ ০৪
৩.৪	প্রারম্ভিক স্নায়ুতন্ত্রের অবস্থা (এশিয়া অনুযায়ী)	<input type="checkbox"/> সম্পূর্ণ A <input type="checkbox"/> অসম্পূর্ণ B <input type="checkbox"/> অসম্পূর্ণ C <input type="checkbox"/> অসম্পূর্ণ D <input type="checkbox"/> স্বাভাবিক E	০১ ০২ ০৩ ০৪ ০৫
৩.৫	রোগ নির্ণয় (ভর্তির সময়)	<input type="checkbox"/> T/P <input type="checkbox"/> সম্পূর্ণ A <input type="checkbox"/> অসম্পূর্ণ B/C/D/E	০১ ০২

### পর্ব-৪: স্ত্রীরোগ সম্পর্কিত তথ্যাবলি

(রোগীর থেকে তথ্য নেয়া হবে)

নং	প্রশ্নমালা	উত্তর	কোড
৪.১	আপনার কোনো স্ত্রীরোগ সমস্যা আছে?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
<b>যদি থাকে, তাহলে নিচের প্রশ্নের উত্তর দিন?</b>			
৪.২	আপনি কি শ্রোণীতে ব্যথা অনুভব করেন?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২

8.৩	আপনি কি মূত্রত্যাগের সময় কোনো স্বলন্ত সংবেদন অনুভব করেন?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.৪	আপনি কি মূত্রত্যাগের সময় কোনো ব্যথা অনুভব করেন?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.৫	আঘাতের পর কি আপনার মাসিক বন্ধ ছিল?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.৬	আপনার মাসিক কি এখন নিয়মিত হয়?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.৭	আপনি কি মাসিকের সময় পরিচ্ছন্নতা বজায় রাখতে পারেন?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.৮	আপনি কি মাসিকের সময় কোনো ব্যথা অনুভব করেন?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.৯	আপনি কি মাসিকের আগে কোনো লক্ষণ পান?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.১০	আপনি কি মাসিকের আগে, পরে অথবা মাসিকের সময় মাথাব্যথা অনুভব করেন?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.১১	আপনার কি মাসিকের আগে, পরে অথবা মাসিকের সময় ঘাম হয়?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.১২	আপনি কি মাসিকের আগে, পরে অথবা মাসিকের সময় মূত্রাশয়ে ঘন ঘন খিঁচুনি অনুভব করেন?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.১৩	আপনি কি মাসিকের আগে, পরে অথবা মাসিকের সময় মাংসপেশিতে খিঁচুনি অনুভব করেন?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.১৪	আপনি কি মাসিকের আগে, পরে অথবা মাসিকের সময় শরীরের নিচের অংশে ফোলা ও অত্যধিক জল অনুভব করেন?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.১৫	আপনার কি মাসিক বন্ধ হয়ে গিয়েছে?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.১৬	আপনার কি যোনি দিয়ে ধূসর এবং পুরু স্রাব যায়?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.১৭	আপনি কি যোনিতে কোনো ফুসকুড়ি দেখেন?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২



8.১৮	আপনি কি যোনিতে কোনো জ্বালা অথবা চুলকানি অনুভব করেন?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.১৯	আপনি কি আঘাতের পর দুশ্চিন্তা করেছেন?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.২০	আপনার কোনো হাড় ভেঙেছে?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.২১	আপনি কি এই স্ত্রীরোগের কোনো সেবা নিয়েছেন?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২
8.২২	এই স্ত্রীরোগ কি আপনার ফিজিওথেরাপি চিকিৎসায় প্রভাব ফেলে?	<input type="checkbox"/> হ্যাঁ <input type="checkbox"/> না	০১ ০২

**Title: Prevalence of Gynecological problems of patients with spinal cord injury**

<b>Interview Schedule</b>			
<b>Part- I: Patient's Identification (To be collected from patient or attendant)</b>			
1.1	Identification number:	Date:	
1.2	Address:	Contact number:	
1.3	Consent Taken : Yes /No		
<b>Part- II: Patient's Socio-demographic Information (To be collected from Record/Patient/Care giver)</b>			
2.1	Age (In year): ..... Yrs		
2.2	Marital status	<input type="checkbox"/> Married <input type="checkbox"/> Unmarried	01 02
2.3	What is your educational level?	<input type="checkbox"/> Illiterate <input type="checkbox"/> Literate Up to sign Primary School Certificate Junior School Certificate (JSC) Secondary School Certificate Higher Secondary School Certificate (HSC) Higher education	01 02 03 04 05 06 07

2.4	What is your occupation ?	<input type="checkbox"/> Housewife <input type="checkbox"/> Factory/garments worker <input type="checkbox"/> Day laborer <input type="checkbox"/> Teacher <input type="checkbox"/> Student <input type="checkbox"/> Unemployed <input type="checkbox"/> Others	01 02 03 04 05 06 07
2.5	What is the average monthly income of your household?	_____ ( <i>Taka</i> )	
2.6	Residential Area	Rural Urban	01 02

**Part-III: Physiotherapy related Information**  
**(To be collected from Record/ Care provider)**

QN	Question	Answer	Code
	History of injury		
3.1	Date of injury:		
3.2	Date of admission:		
3.3	Skeletal level of injury	<input type="checkbox"/> Cervical <input type="checkbox"/> Thoracic <input type="checkbox"/> Lumber <input type="checkbox"/> Sacral	01 02 03 04

3.4	Initial Neurological level by ASIA Scale	<input type="checkbox"/> Complete A <input type="checkbox"/> Incomplete B <input type="checkbox"/> Incomplete C <input type="checkbox"/> Incomplete D <input type="checkbox"/> Normal E	01 02 03 04 05
3.5	Diagnosis(During admission)	<input type="checkbox"/> T/P <ul style="list-style-type: none"> <li>• Complete A</li> <li>• Incomplete B/C/D/E</li> </ul>	01 02

**Part IV: Gynecology related questions**  
(To be collected from patient/attendant)

QN	Questions	Answer	Code
4.1	Have you any gynecological problems?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
If yes, then answer the following question.			
4.2	Do you feel any pelvic pain?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.3	Do you feel any burning sensation during urination?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.4	Do you feel any pain during urination?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.5	Did your menstruation stop after injury?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.6	How month your menstruation stop?	-----month	01
4.7	Is your menstruation regular?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.8	Do you maintain hygiene during menstruation?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02

4.9	Do you feel any cramping during menstruation?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.10	Do you feel any premenstrual symptoms?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.11	Do you feel any headache before, during or after menstruation?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.12	Do you feel any sweating before, during or after menstruation?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.13	Do you feel frequent bladder spasm before, during or after menstruation?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.14	Do you feel worsening of muscle spasticity before, during or after menstruation?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.15	Do you feel excessive gain of water with bloating & lower extremity swelling before, during or after menstruation?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.16	Is your menstruation stop?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.17	Do you feel any itching or burning sensation in the vagina?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.18	Is any whitish gray and thick discharge pass from the vagina?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.19	Do you see any rash in the vagina?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.20	Did you feel stress after injury?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.21	Have you any bone fracture?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.22	Do you receive any gynecological treatment for these problems?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02
4.23	Are these problems affects your physiotherapy treatment?	<input type="checkbox"/> Yes <input type="checkbox"/> No	01 02

# PERMISSION LETTER

8<sup>th</sup> March, 2015  
Head  
Department of Physiotherapy  
Centre for the Rehabilitation of the Paralysed (CRP)  
CRP-Chapain, Savar, Dhaka-1343  
Through: Head, Department of Physiotherapy, BHPI

Approved  
Please contact with  
Farzana Obaidul in a  
consultant part of data  
collection process.

Md. Obaidul Haque  
15/03/15  
Head, Department of Physiotherapy  
Centre for the Rehabilitation of the Paralysed (CRP)  
CRP-Chapain, Savar, Dhaka-1343

**Subject: Seeking permission for data collection to conduct my research project.**

Sir,

With due respect and humble submission to state that I am Parvin Akther, student of 4<sup>th</sup> year B.Sc. in Physiotherapy at Bangladesh Health Professions Institute (BHPI). The Ethical Committee has approved my research title on "Prevalence of Gynecological problems of patients with spinal cord injury" under the supervision of Md. Obaidul Haque, Head of the Physiotherapy Department, BHPI. Conducting this research project is partial fulfillment of the requirement for the degree of B.Sc. in Physiotherapy. I want to collect research data for my research project at SCI unit, CRP. So, I need permission for data collection from SCI unit. I would like to assure that anything of my study will not be harmful for the participants.

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

Yours faithfully

Parvin Akther  
16.03.15  
Parvin Akther  
4<sup>th</sup> year B.Sc. in Physiotherapy  
Session: 2009-2010  
Bangladesh Health Professions Institute  
(An academic Institution of CRP)  
CRP- Chapain, Savar, Dhaka- 1343.

Forwarded For Approval  
9/15/03/15  
Allow for data collection  
16/03/15