FACTORS RELATED TO SOCIAL PARTICIPATION OF PERSONS WITH DISABILITIES AT CRP

BY

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Submitted in Partial Fulfillment of the Requirements for the Degree of MSc in Rehabilitation Science May 2021

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As the supervisor of Ms Laxmi Paudel's thesis work, I certify that I consider her thesis "**Factors Related to Social Participation of Persons with Disabilities at CRP**" to be suitable for examination.

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DECLARATION

This work has not previously been accepted in substance for any degree and is not concurrently submitted in candidature for any degree.

This dissertation is being submitted in partial fulfillment of the requirements for the degree of MSc in Rehabilitation Science.

This dissertation is the result of my own independent work/investigation, except where otherwise stated. Other sources are acknowledged by giving explicit references. A Bibliography is appended.

I confirm that if anything identified in my work that I have done plagiarism or any form of cheating that will directly awarded me fail and I am subject to disciplinary actions of authority.

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ACRONYMS

CBR:	Community Based Rehabilitation
CP:	Cerebral palsy
CRP:	Centre for the Rehabilitation of the Paralyzed
DFID:	Department for International Development
GBS:	Guillain barre syndrome
ICF:	International Classification of Functioning, Disability and Health
RA:	Rheumatoid arthritis
SCI:	Spinal cord injury
PWDs:	Person with disabilities
WHO:	World Health Organization

ABSTRACT

Introduction: Approximately 15% of total populations in world are experiencing some form of disability, of whom 2-4% experience significant challenges in working and functioning. Disability is chronic impairment prompting social and financial drawbacks, deprived of rights with constrained chances of having equal access in community. Society often excludes the people with impairment but they are unaware about the value of excluding them. This leads to decrease productivity in community.

Objective: To measure the social participation of persons with disabilities and its relationship with sociodemographic, personal and environmental factors. To study differences between staff, students and patients of CRP in this respect.

Methods: A comparative cross-sectional study design was used and 185 data were collected from the Centre of Rehabilitation of the Paralyzed. Socio-demographic data, disease/disability related data, environmental data and other data related to personal factors were collected. Primarily CHIEF-S, Rosenberg self-esteem scale, participation scale and other self-structured questionnaire were used for data collection. The data was collected using face to face interview from the patients.

Results: The mean age of the patient was 29.39±8.613. when interpreting the score for the scales, patients were found to be most affected while staff were discovered as the less affected by their disability. In final model, having multiple diagnosis (p=0.003), high magnitude of environmental barrier (p=0.000), poor attitude or support (p=0.000), being diagnosed as Rheumatoid arthritis (0.009) and work/school subscale (p=0.000) had significant relationship with social participation. The first three factors were responsible for hindering the social participation while the last two were facilitating the participation.

Conclusion: Except 25.4% almost all the participants experience some degree of restrictions on social participation. Despite of the severe disability status, person can still enjoy a good participation and self-esteem if attitude and build environment are made disability-friendly.

Keywords: Person with disability, environmental barrier, self-esteem, social participation.

CHAPTER I
INTRODUCTION

1.1 Background

Approximately 15% of total populations in world are experiencing some form of disability, of whom 2-4% experience significant challenges in working and functioning (World Health Organization, 2019). It is estimated that about 80 per cent of them belong to developing countries. And 20 per cent are thought to be coming from marginalized populations of these countries (United Nation, 2006). As estimated by World Bank, person with disabilities represents 10 % of the population in Bangladesh. In 2004 the prevalence of disability was about 6% among those below the age of 18 and about 14% among those above that (Disability in Bangladesh: Prevalence and pattern, 2015; World Bank, 2004).

According to Department for International Development (2000), disability is chronic impairment prompting social and financial drawbacks, deprived of rights with constrained chances of having equal access in community. DFID further claims that only 2% of the disabled people are receiving rehabilitation and basic health services in developing countries. Disability is not an individual problem, but it is the problem of society as well. Society often excludes the people with impairment but they are unaware about the value of excluding them. This leads to decrease productivity in community (DFID, 2000).

The World Health Organization (WHO) recognizes participation being fundamental right for functioning social activities (World Health Organization, 2002). International Classification of Functioning, Disability and Health (ICF) describe participation as an individual inclusion in life circumstances (World Health Organization, 2001). There is general agreement on a fact that being actively engaged with social work and community inclusion is associated with quality of life as a result, participation has become focus of rehabilitation (Levasseur, Desrosiers, & St-Cyr Tribble, 2008). For instance, Chang, Wang, Jang, & Wang (2012) mentioned that individuals with spinal cord injuries have high quality of life; being highly associated with social and community participation.

WHO has recognized the significance of individual and environmental factors on functioning; however constrained participation is continuous within the acute and endless illness or conditions. There are not many investigations that have investigated

about the variables limiting to social participation. The limited availability of information and confirmation about the association between relevant elements and social cooperation can proof that talks on these trends are recently established (Larsson Lund, Nordlund, Nygard, Lexell, & Bernspang, 2005). So, the study was conducted with the objectives of identifying the factors that directly or indirectly influences the social participation of person with disabilities, that can contribute to the existing generalized knowledge about the variables.

1.2 Justification of study

The World Health Organization International Classification of Functioning, Disability and Health (ICF) have clearly mentioned about participation that it is the result of contextual factors that includes personal and environmental factors.

The study conducted in Brazil revealed factors that both increases and limits the social participation. Factors, for example, educational experience, being occupied with the work environment, and consumption of liquor are positive elements. While natural environment, transportation, access towards health services, and social capital are seen as the most significant hindrances to social participation but the study did not mention about the role of self-esteem (Silva, Sampio, Ferreira, Camargos & Neves, 2013). The numerous barriers can negatively influence the self esteem of individuals and might bring negative impact in social participation.

A literary systematic review of studies by Verdonschot, De Witte, Reichrath, Buntinx and Curfs (2009) concluded that numerous investigations are not able to clearly define about the idea of social participation, most of them have only highlighted about the impact of services that have lead to community participation. Literatures also revealed that rejections in society for the people with disabilities is more than as expected and there are additional influential factors other than their health conditions that is limiting social participation (Silva et al; 2013).

The report on the "situation of persons with disabilities in Bangladesh" mentioned about the exclusion from other family members and relatives most of the time and highlighted about rare chance of being participated in social activities (Universal Periodic Review of Bangladesh, 2012).

Truth to be told, in a systematic survey of psychosocial interventions for depression, the author claimed statistical significant relationship with social activities participation leading decrease of psychological symptoms (Forsman, Nordmyr, & Wahlbeck, 2011).

So as to empower people with disabilities in enabling finding opportunities with job and education, vocational training and skill development, also fulfilling the developmental task with marriage and a family or a societal role; first they need to be recognized and incorporated in the society. Social participation closely relates with interaction in social system or within family, peers or friends (Akyurek & Bumin, 2017).

Therefore, improving social and community engagement is being importantly focused in clinical areas, particularly for those people who might be in danger for having less than optimal participation.

Clearly about the concept, there is need of further exploring about individual characteristics, self-esteem, environmental factors in order to plan and implement interventions for reducing contextual and personal barriers and enhancing full participation of every individual in the society. The study will consider the relation between social participation and above mention factors to be explored to grasp the in-depth knowledge about the factors limiting the participation among person with disabilities. Thus, the research on this study area will help to optimize social participation among person with disabilities and act as guidance to aware people and professionals as well, and also can be used as a medium for health promotion and advocacy to government that can help to quantify the burden. Meanwhile, it also helps to implement the relevant intervention and can influence the existing health policy to be reviewed.

Center for the Rehabilitation of Paralyzed (CRP) is only non-profitable organization in Bangladesh which has been working for 40 years on managing and rehabilitating PWDs. Incorporating holistic approach of rehabilitation and community reintegration process, CRP has internationally recognized institution that provides various services to meet the needs of Person with Disabilities such as medical services, therapy, rehabilitation, assistive technology and devices, education and training on income generating activities. CRP is one of the largest best institute for patients with spinal cord injury and chronic illness. The patients come from both the urban and rural areas for their treatment. So, the study was conducted in CRP with the intentions of getting good opportunity to interact with PWDs.

1.3 Research hypothesis:

Null hypothesis (H_0):

- There is no difference in restrictions on social participation in three different groups (staffs, students and patients).
- Personal factors (socio-demographic variables, disease/disability related factors, lifestyle factors and self-esteem) don't have significant influence on social participation of PWDs.
- Environmental factors don't have significant influence on participation restriction of PWDs.

Research hypothesis (H_1):

- There is difference in restrictions on social participation in three different groups (staffs, students and patients).
- Personal factors (socio-demographic variables, disease/disability related factors, lifestyle factors and self-esteem) have significant influence on social participation of PWDs.
- Environmental factors have significant influence on social participation of PWDs.

1.4 Operational definition

Social participation: Social participation is the involvement of individual's in community activities and the extent to which they interact with community members in school, work and in the environment.

Person with disabilities: persons suffering from reduced physical functioning, with special attention to moving around, performing (activities of daily livings) tasks, and available stamina.

CHAPTER II
LITERATURE REVIEW

Participating implies being actively involved in different life situation, alongside access to assets for this consideration. The ICF model portrays participation is dependent upon individual and environmental attributes. Personal characteristics delineates individual characteristics and their attributes while external environmental factors might be other factors than the internal attributes that affects individuals life decisions, choices, relationships and life in community (World Health Organization, 2001).

The more effect of disability is seen among vulnerable population such as women, children, elderly people and poor people. Female with disability endure double discrimination on the basis of their sex and weakness; their education achievement is also less than their partners. Children with inabilities tends to pass early or are neglected, denied and are marginalized. While others are socially excluded, made deprived of education are then unfit for the employment and finally leading more profoundly to poverty (DFID, 2000; Roncancio, 2015).

The attitudinal and organizational barriers are the basic issues for characterizing persons with disabilities as negligible and their exclusion from the work place. General people negative behavior towards the person with disabilities moral downs their values within the societal level and as a result, person with disabilities remain deprived from the the equal access of the existing social opportunities (Naraine & Lindsay, 2011).

Physical and social environmental factors have been the focus of numerous studies that have concluded, environmental boundaries are resulting decrease social participation. Therefore, environmental variables are viewed as vital in constraints on functioning of daily living and confinements on social support (Whiteneck et al., 2004; Noreau & Boschen, 2010). Author Roncancio (2015) mentioned, individuals with impairments face additional expenses and boundaries for their rehabilitative health care services and are socially isolated for education and employment opportunities which adversely affect their consumption leading them to poverty.

Participation characteristics such as its nature, duration or quality are dependent on traits of person, regardless of having same health condition between individual, it cannot be compared at all. Participation is evaluated on basis of situation in the society

rather than range of activities of individual. Limited participation can result into certain medical issues and condition. If participation is adequate, individual can participate in range of activities in their field. Some people relate participation with social skills, however as per the specialists, participation is more complicated in comparison with other (Akyurek & Bumin, 2017).

Qualitative study conducted in post-conflict Sierra Leone (Dos Santos-Zingale and Ann McColl, 2006) reveals insight into PWDs and community participation. The study looked after the attitude and helps that PWDs search for from international organizations and governments. The attitudes discovered were unexpected; desire to live in a circle of person with disabilities; strong wish to be perceived as equal inhabitant and be given equivalent chances in country; wish to be financially independent; and requirement of help. Support from peers, a feeling of belonging, acceptance and increased social participation were variables impacting PWDs wishing to live in isolated or segregated communities instead of be coordinated. PWDs realized that campaign for help from national and international bodies can be attracted if they live in a segregated community. The examination done in the study uncovered that person desire for inclusion and integration is dependent upon condition and situation within the community they reside. While Edmonds' examination (2005) argues that participation is desire of all PWDs worldwide; difference exists in community people of developed and developing countries that they lack the idea behind facilitating change in incorporating the participation of PWD. Edmonds' discoveries demonstrate this is a shortcoming of nations in experiencing significant change.

In a systemic review study conducted by Smith, Sakakibara, & Miller (2014) mentioned that social or community participations of wheelchair operators is connected to factors in ICF domains. Wheelchair factors, availability, abilities with wheelchair use, pain, funds, and instruction are modifiable factors much of the time answered to be related with participation. Study also mentioned about the need of exploratory research concentrating on modifiable variables to assist their comprehension of factors impacting participation among wheelchair clients.

Individuals having restricted mobility have decreased diminished open door for cooperation in social and network activities (Williams & Willmott, 2012). Luckily, in numerous examples, people with limitations in activities are supplemented by wheelchairs as a means for encouraging mobility and participation. Nonetheless, regardless of proof that basically having access to wheelchair lead to increased

participation among people with mobility limitations (Rousseau, Harrison & Rochette, 2012), investigate likewise demonstrates wheelchair clients still experience lower dimensions of participations in respect to wandering individuals (Best, Routhier, & Miller, 2014). For instance, Best and Miller reports only 8.3% of participation among older wheelchair user while with same age ambulatory people having participation of 88.9%.

The study conducted on spinal cord injury patients portrayed that larger part of the respondents are having at least one serious issue in participation; the most influential variable is access to social help in predicting apparent serious issues with participation in comparison with certain individual and wellbeing related components (Larsson Lund, Nordlund, Nygård, Lexell, & Bernspång, 2005). While another study conducted on person having late effects of Polio proved that participation is also influenced by the perceived barriers to participation. The individual who did not encounter the barriers were reporting good participation in the community. However, further study was suggested to understand more about the participation in life situations among affected individuals (Lund & Lexell, 2009).

The recent study conducted in Mexico exhibits that the perception of environmental barriers was associated with female gender, urban area residency, speaking an indigenous language, experiencing emotional symptoms, walking or movement ability, presence of visual or self-care disability, having severe/extreme disability, illness related disability, use of assistive devices, and receiving assistance and care in the home environment (Giraldo-Rodríguez, Mino-León, Murillo-González, & Agudelo-Botero, 2019).

The challenges of involvement in everyday activities and disability related health outcomes may be the product of the decreased physical capacity of individual, the existence of environmental obstacles and the absence of facilitators, or a combination of them both. The ICF considers the main function of environmental factors, and suggests evaluating them from the viewpoint of people with disabilities in order to design the interventions facilitating the inclusion of person with disabilities (WHO,2001).

In the context of Bangladesh, the condition of PWDs is deviated from the set standard in different areas such as education, employment, civil rights and in social sector. The discrimination towards the disabled people is creating trouble in their daily

lives which directly have negative impact on socio-cultural and financial activities (Rahman, 2017, p. 19-20).

In Bangladesh, disability is yet a neglected problem. There have been very few policy-level studies conducted in this field so far. But the execution of the strategy is a big problem in this political work cycle. Though there is a legal duty for people with disabilities to allow and maintain equal access and opportunities but only minor changes were observed in the actual work scenario or education of people with disabilities (Jalil, 2012).

The study led in Bangladesh by Kader, Perera, Sohrab Hossain, & Islam (2017) among spinal cord injury patients analyzed only the socio-demographic and injury related factors that diminishes the activity limitations and participation restriction and revealed tetraplegia, complete injury, and residing in a rural area as a major factor in constraining participation and activity. However, the study didn't analyze the environmental domains that PWDs are living in and facing the daily challenges.

In 2015, Hossain et al., in their study examined only the status of the participants followed by spinal cord injury in Bangladesh; most of them were limited to house, unemployed, living in poverty and victimized by pressure ulcer with depression and low quality of life.

The background setting where person with disabilities live might lack the setting to encourage them for involving in various activities, for example learning, working, visiting a a doctor or playing sport. It has been proposed in the literature that the environmental obstacles can be greater than the impairment itself (WHO,2011;Layton & Steel, 2015). Such barriers can cause autonomy loss and increase dependence(WHO,2011). Moreover, person experiencing environmental barriers are at greater risk of accidents and injuries, home bounded person are more likely to be overweight and more prone to experience chronic illness (Giraldo-Rodríguez et al.,2019).

The above mention studies are useful in understanding the context of person with disabilities however, focuses on research in international development, health care reform, psychological rehabilitation, landmines, Community Based Rehabilitation (CBR), and education, there is only little consideration paid to the inquiries and difficulties faced in integration of PWDs. Only few have contributed to examine the factors influencing PWDs' social and community participation, and research on the

experiences of life situation after disability are relatively less (Dos Santos-Zingale & Ann McColl, 2006).

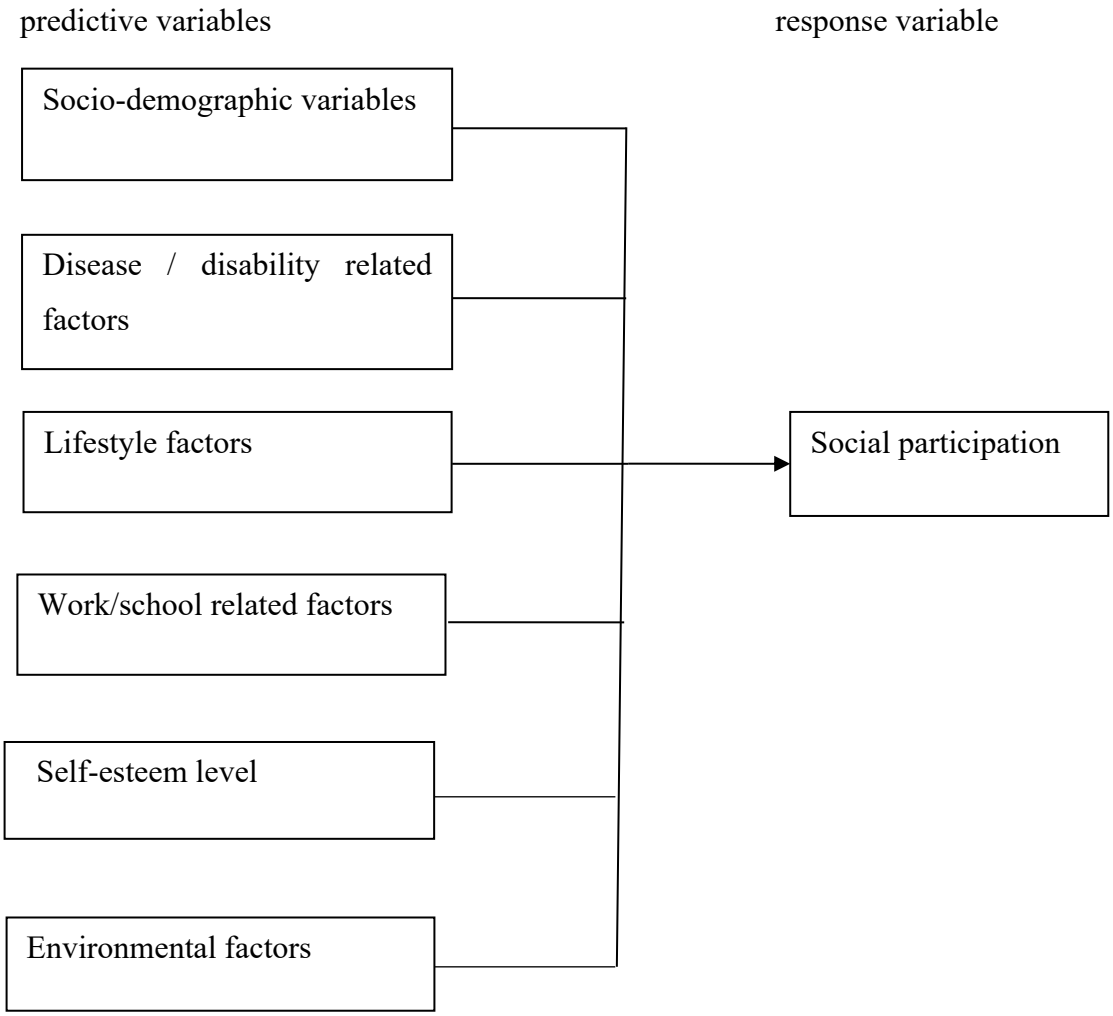
There is scarcity of information on personal, environmental and disease/disability related factors contributing towards participation restriction in PWDs in less resourced country like Bangladesh. The information found from previous studies conducted in other countries revealed factors such as support from peers, a feeling of belonging, acceptance and situation within the community (Dos Santos-Zingale and Ann McColl, 2006), availability and using ability of assistive devices (Smith, Sakakibara and Miller, 2014), increasing age, length of disability (Whiteneck et al., 2004 and Whiteneck, Tate, & Charlifue, 1999) female gender (Whiteneck, Tate, & Charlifue, 19999 and Krause & Broderick, 2004) and extent of injury (Whiteneck et al., 2004 and Whiteneck, Tate, & Charlifue, 19999) are found to be closely interrelated with the participation. However, these findings cannot be generalized to the context of Bangladesh due to demographic differences, for instance cultural differences, ethnic values, political representation and geographical structure of the country.

In recent years, studies are focusing on the lifestyle and status after injury of person with disability, very few studies had paid attention towards exploring the environmental factors that has direct impact on participation and health and well-being of person with disabilities in a community. Most of these studies have been conducted in developed and resourced countries, whereas this type of research is still emerging in middle- and low-income countries.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Conceptual Framework



The predictive variables of the study are socio-demographic variables, disease or disability related factors, environmental factors, self-esteem and lifestyle factors and the response or outcome variable is social participation. The predictive variable can influence the outcome variable. Age of the participant, gender, marital status, education level and financial status falls under the socio-demographic variables, while time since development of disease or disability, use of assistive device and co-morbidities are categorized under disease/disability related factors. The lifestyle factors are exercise, smoking, alcohol, sharing opinion with others and leisure time activities. The work/school related factors are employment status before and after disability, accommodation/adjustment needs in workplace/school and modes of transport used to

travel to work/school. The environmental factors are policies, physical structure, work/school, attitudes/support and service/assistance. The predictive variables are interdependent upon each other and can influence the result of outcome variable.

3.1.1 Variables:

Predictive variables:

- Socio-demographic variables: Age, gender, marital status, education level, working status, financial status
- Disease/disability related factors: duration lived with disability, assisting device, co-morbidities,
- Lifestyle factors: exercise, smoking, alcohol, sharing opinion with others, leisure time activities (including relaxing and activities that give persons meaning to life)
- Work/school related factors: employment status before and after disability, accommodation/adjustment needs in workplace/school, modes of transport used to travel to work/school
- Self esteem
- Environmental factors: policies, physical/ structure, work/school, attitudes/support, service/assistance

Response variables:

- Social Participation

3.2 Aims and Objectives:

Aim: To measure the social participation of persons with disabilities and its relationship with sociodemographic, personal and environmental factors.

Specific objectives:

- To measure the self-esteem,environmental barriers and participation restriction among persons with disabilities.
- To identify personal factors and environmental factors influencing social participation of PWDs.
- To study differences between staff, students and patients in above mentioned factors.

3.3 Study design

This research study had followed quantitative approach to answer the research questions. Quantitative approach is used when researcher wants to quantify the problem and present result in numeric form. The method I had adopted in this research is comparative cross-sectional.

3.4 Study population

The participants of my research study include person with disabilities present at the time of data collection in CRP. The study population covers staffs, students (including those of vocational training: tailoring, ICT: computer programs, repairing mobiles, other kinds e.g. gardening, wooden furniture making) of CRP and patients and ex-patients who visited CRP for treatment and annual function respectively.

3.6 Study Area

Centre for the Rehabilitation of the Paralyzed (CRP) including Savar and Gonakhbari.

3.7Sample size and sampling technique:

Sample size = $z^2p\ (1-p)/d^2$ where,

z= 1.96 (statistics for a confidence level of 95%)

p= 0.14 (14% prevalence) (Disability in Bangladesh: Prevalence and pattern,2015)

d=0.05 (precision of 5%)

n= $(1.96)^2$ *0.14(1-0.14)/ $(0.05)^2$ = 185

The total number of required sample size is 185.

Purposive sampling technique was followed for the patients; who attended CRP for their treatment or for follow up, and the previous patients who came for the 40th celebration program of CRP, were interviewed during data collection period. But for the students of vocational training and staffs of CRP, total enumeration of sample was done because of limited data size. All of them (staffs and students of CRP) were interviewed who were present and gave consent to participate in the study at the time of data collection. Data were collected from the participants visiting CRP during period of 15th September to 10th January. The total number of sample size is 185. The 40th annual function gave me opportunity to collect data from previous patients as well.

3.7 Inclusion and exclusion criteria

Inclusion criteria:

- Person with physical disabilities attending CRP.
- Person whose age is 18 years or older.
- Individuals who have received a diagnosis of spinal cord injury(SCI),cerebral palsy(CP), club foot, rheumatoid arthritis, status after amputation of upper/lower extremity, status Guillain barre syndrome (GBS), status after stroke and status after polio from specialized professionals for the specific condition.
- Person experiencing disabilities for more than 12 months.

Exclusion criteria:

- Participants who are not able to communicate so as to answer the questions (e.g. patients with diagnosed aphasia, patients with hearing problem).
- Those who doesn't wish to participate and disagree to informed consent.

3.8 Data collection tools

Self-structured questionnaire was developed for collecting socio-demographic information, disease/disability related information, lifestyle factors and work/school related factors of the respondents. Rosenberg self-esteem scale was used for assessing level of self esteem. The scale is ten item Likert scale with items answered on a four point scale - from strongly agree to strongly disagree in which five items were composed positively and five negatively. The scale ranges from 0 to 30, with 30 indicating the highest score possible. The score was treated as continuous variable and interpreted as; higher the score, the higher the self esteem (Rosenberg, 1965). The scale was translated to Bengali language by Ilyas in 2002.

Craig Hospital Inventory of Environmental Factors (CHIEF-S) form to assess the environmental factors on people with disabilities (Whiteneck et al., 2001). The form was translated into Bengali language and validated for the study with permission from the developers of the instrument. A pre-test was carried out to refine the translation.

Participation scale (P –scale) was used to measure the level of participation restriction among respondents. It consists of 18 items with each item consisting two question, the first question addresses the aspect of social participation in comparison of

self with their peers, for instance, “Do you have equal opportunity as your peers to find work?”. If only the participant answer “Sometimes” or “No” the second question is asked regarding the magnitude of the problem and scores are given accordingly. The total score can vary from 0 to 90, with high score indicating more restriction in social participation. Also, the restriction level can be determined based on the scores interpreted as; i) 0-12: no significant restriction ii)13-22: mild restriction iii) 23-32: moderate restriction iv) 33-52: severe restriction v)53-90: extreme restriction. The scale was also available in Bengali language (Van Brake et al., 2006). All the three scales were treated as continuous variable.

3.9 Data collection technique:

After the translation of the questionnaire, pilot study was done among ten person with disabilities according to the inclusion and exclusion criteria to validate the translated questionnaire. From the study it was observed that some of the questions were not relevant to the context of Bangladesh and needed modification was done accordingly. From the pilot study necessary changes was brought in the translated questionnaire by analyzing the opinions obtained from the colleagues and people with disabilities. It was also ensured that there are no double meaning questions, ambiguous questions that could confuse and mislead the respondent.

The researcher started data collection after approval of study by the Institutional Review Board review (IRB) of Bangladesh Health Professions Institute (BHPI) and Dhaka University. After the ethical approval permission was taken from the head of program, CRP, Savar for collection of data. During the data collection, the purpose of the study, information of the researcher was explained briefly to the participants and was asked for the consent to participate in the research. The researcher was not native Bengali speaker so; local friend helped the researcher to collect data. The data collection was done through face to face interview and was explained properly if they did not understand the question. The scoring of the questionnaire was explained properly before asking any questions. Also, if the respondent hesitated to answer the questions were skipped. The respondent was assured about the privacy and confidentiality.

3.10 Data analysis and presentation

Data is analyzed using SPSS version 25. Different statistical methods such as descriptive, inferential and comparative statistical methods is followed for analysis of data. Data is presented through tables and graphs.

3.11 Quality control and quality assurance

For ensuring quality of study, valid and reliable instrument was used. For further assurance, language validation was done through forward and backward translation from English to Bengali language and vice versa. Data was collected by researcher herself with the help of local friend to ensure avoiding missing of data and was entered in SPSS accurately. For ensuring the effectiveness of data entered, random filled questionnaires were picked up and then compared and matched with the data entered in SPSS. The study is kept plagiarized free.

3.12 Ethical Consideration:

This study was conducted following the standard guidelines of ethical consideration. WHO guidelines were followed in this study. Firstly, prepared research proposal was submitted to the concerning authority after getting approval from course coordinator of Department of Masters in Rehabilitation Science and supervisor. Ethical approval was taken from Institutional Review Board review (IRB) of Bangladesh Health Professions Institute (BHPI) for conduction of research.

After getting approval, research proposal was submitted to Ethical Review Board (ERB) of to conduct the research in CRP, Bangladesh. Informed consent as well as questionnaires in both Bengali and English language was submitted along with proposal. Individual informed consent was taken from respondent before starting data collection. The respondents were informed of his right to leave or not give answer if he was not willing to answer any question within the questionnaire. Participants were not forced or coerce to answer the questions if they were not willing to. The information obtained will be used only for the research purpose. Confidentiality and anonymity of the information provided by patient will be maintained. It is protected by the law “right to privacy” which prevents the researcher from disclosing any direct information about the participants of the research.

CHAPTER IV

ANALYSIS AND RESULT OF THE STUDY

4.1 Socio-demographic information of the Respondents

4.1.1: Sample representation

Table 4.1.1

Type of sample in study

Sample representation	Frequency	Percent
Patients of CRP	69	37.3%
students of CRP	78	42.2%
Staffs of CRP	38	20.5%
Total	185	100.0%

The table 4.1.1 shows the representation of sample in study. 42.2%(n=78) of sample were students of CRP. Here, students refer to those who were enrolled in vocational training institute of CRP. 37.3%(n=69) were the patients who visited CRP either for the treatment or for follow up, or were the ex-patients who visited for the annual function program of CRP and the rest of the sample were the staffs working in CRP.

4.1.2 Age distribution

Table 4.1.2

Statistical Description of Age

Age	Patients (n=69)	Students (n=78)	Staffs (n=38)	Total (n=185)
Minimum-Maximum value	18-59	18-43	18-40	18-59
M	35.04	24.72	28.74	29.39
SD	9.7	5.34	5.29	8.613

Note: M=Mean, SD= Standard deviation

The table 4.1.2 describe about the age of respondents. The lowest and highest age value observed are 18 and 59 respectively. The average value of age of the participants is 29.39, while standard deviation is 8.613.

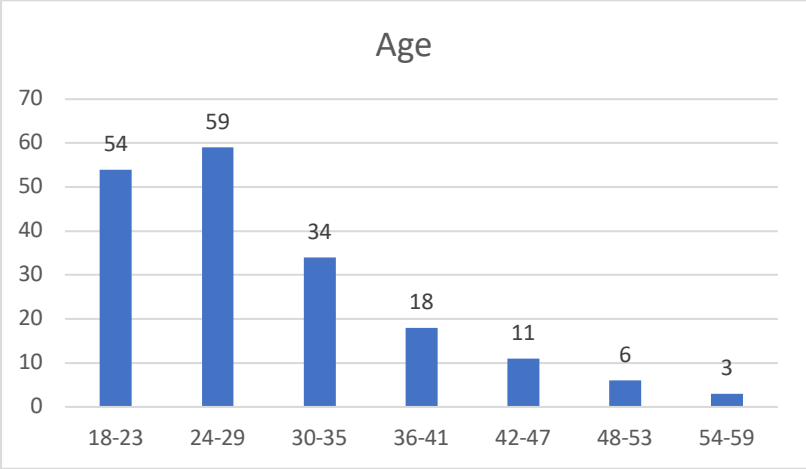


Figure 4.1.1: Age of the respondent

The figure 4.1.1 clearly depicts the information on the age of the respondents. Out of 185 participants, 59(31.9%) participants are from age group 24 to 29, 54(29.2%) participants from age group 18-23, 34 (18.4%) from age group 30-35,18(9.7%) from age group 36-41, 11(5.9%) from age group 42-47, 6 (3.2%) from age group 48-53 and very few 3 (1.6%) from age group 54-59. Thus, it can be concluded that most of the participants were young to middle aged.

4.1.3: Gender and marital status distribution

Table 4.1.3

Distribution of gender

	sample groups			
Gender	Patients	students	staffs	Total
Female	21 (30.4%)	41 (52.6%)	24 (63.2%)	86 (46.5%)
Male	48 (69.6%)	37 (47.4%)	14 (36.8%)	99 (53.5%)
Total	69 (100.0%)	78(100.0%)	38(100.0%)	185(100.0%)

As, shown in the table 4.1.3, n=99, 53.5% of the participants were male and remaining were female. Number of female participants are higher in students (n=41,52.6%) and staffs (n=24,63.2%) of CRP. This might be because CRP considers the female enrollment as well in the institute.

Table 4.1.4

Distribution of marital status

Marital status	sample groups			Total
	Patients	students	staffs	
Single	11 (15.9%)	37 (47.4%)	13 (34.2%)	61 (33%)
Married	48 (69.6%)	33 (42.3%)	22 (57.9%)	103 (55.7%)
Divorced	5 (7.2%)	7 (9%)	2 (5.3%)	14 (7.6%)
Widow	5 (7.2%)	1 (1.3%)	1 (2.6%)	7 (3.8%)
Total	69 (100.0%)	78(100.0%)	38(100.0%)	185(100.0%)

The table 4.1.4 represents data of marital status in which it is evident that more than half of the respondents were married, n=61, 33% of them were single, n=14,7.6% were divorced and remaining n=7,3.8% were widowed. In patients and staff group most of the participants were married while among students most of them were single.

4.1.3: Gender wise distribution of the respondent based on their age categories

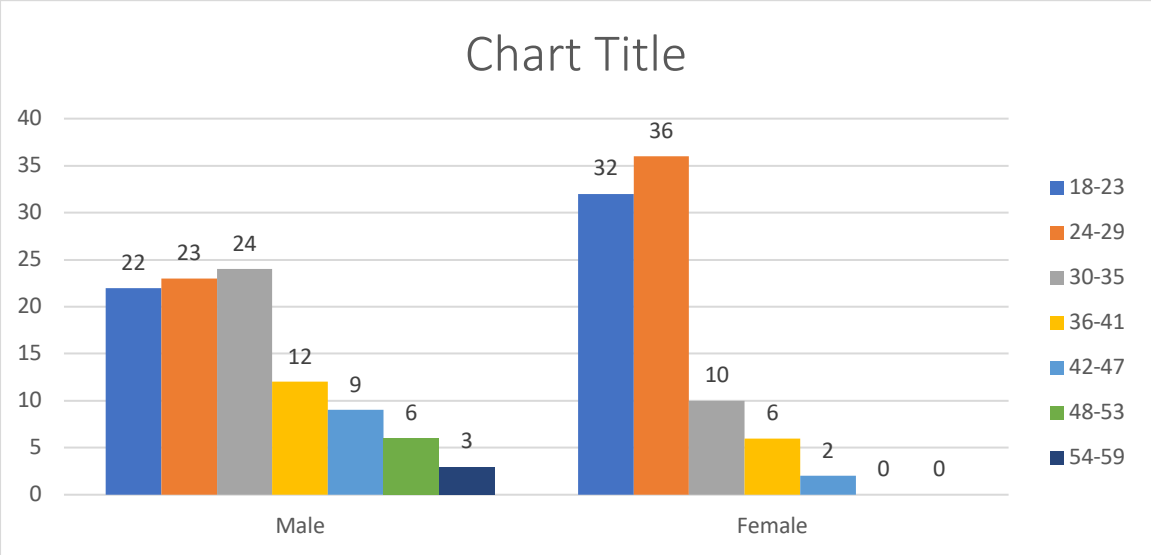


Figure 4.1.2: Gender wise distribution of the participants with respect to their age category

According to Figure 4.1.2, highest number is seen on age group of 30-35 and 24-29 in male and female respectively. Similarly, lowest number is seen on 54-59 for male while for female there are no participants in age group 48-53 and 54-59.

4.1.4: Educational status of participants

Table 4.1.5

Distribution of educational achievement of the respondents

	sample groups			
Educational status	Patients	students	staffs	Total
Primary	19 (27.5%)	20 (25.6%)	1 (2.6%)	40 (21.6%)
Secondary	7 (10.1%)	23 (29.5%)	10 (26.3%)	40 (21.6%)
Higher secondary	16 (23.2%)	17 (21.8%)	14 (36.8%)	47 (25.4%)
Tertiary	11 (15.9%)	5 (6.4%)	9 (23.7%)	25 (13.5%)
No formal education	16 (23.2%)	13 (16.7%)	4 (10.5%)	33 (17.8%)
Total	69 (100.0%)	78(100.0%)	38(100.0%)	185(100.0%)

The information illustrated in the table 4.1.5 is about the educational status of the respondents. Only 25(13.5%) respondents had completed tertiary level of education, while 47(25.4%) respondents had completed their higher secondary level. Similarly, similar figures were observed for primary (initial stage of education to 5th grade) and secondary level that is 40 (21.6%) in each and 33 (17.8%) respondents had not received any kind of formal education. From patients, equal number of participants were observed in higher secondary and no formal education category that is n=16,23.2%, from students most of them had completed secondary level n=23,29.5% while from staffs most of the respondents had completed higher secondary level n=14,36.8%. Here, students refer to those who were enrolled in vocational training institute of CRP.

4.1.5: Family income per month

Table 4.1.6

Distribution of family income per month

Family income per month	sample groups			
	Patients (n=57)	Students (n=77)	Staffs (n=33)	Total (n=167)
Up to 10000	1 (1.8%)	36 (46.8%)	1 (3%)	38 (22.8%)
11000-20000	15 (26.3%)	30 (39%)	11 (33.3%)	56 (33.5%)
21000-30000	23 (40.4%)	9 (11.7%)	18 (54.5%)	50 (29.9%)
31000-40000	16 (28.2%)	1 (1.3%)	3 (9.1%)	20 (12%)
>40000	2 (3.5%)	1(1.3%)	0(100.0%)	3 (1.8%)
M± SD	26947.37±8559.5	13093.51±10389.498	24000±5984.3	19977.25±11086.830

Note: M= Mean, SD= standard deviation

Table 4.1.6 depicts the information about the economic status of the respondents' family. The highest value, 33.5% is observed in range 11000-20000, while 29.9% of the respondent's had family income range in between 21000-30000. Similarly, 22.8% of respondent had family income less than 10000 per month. Moreover, 12% were having family income in range of 31000-40000 and only 1.8% of the respondents had income more than 40,000 per month. Out of 185 participants, 18 participants did not open up with their monthly family income. The average family income per month is 19977 and standard deviation is 11087. The patient response might have Hawthorne effect. The possibility of patients hiding their actual income cannot be under looked as they might have thought decreasing their income status with researcher can help them in reducing their treatment cost.

4.2 Disease/disability related factors

4.2.1.: Medical diagnosis of the condition

Table 4.2.1

Distribution of medical diagnosis of the condition

Medical diagnosis of the condition	sample groups			Total
	Patients	students	staffs	
Spinal cord injury	26 (37.7%)	21 (26.9%)	21 (55.3%)	68 (36.8%)
Cerebral palsy	4 (5.8%)	8 (10.3%)	3 (7.9%)	15 (8.1%)
club foot	2 (2.9%)	14 (17.9%)	3 (7.9%)	19 (10.3%)
status after amputation of upper extremity	0	1 (1.3%)	1 (2.6%)	2 (1.1%)
status after amputation of lower extremity	15 (21.7%)	17 (21.8%)	4 (10.5%)	36 (19.5%)
GBS	6 (8.7%)	5 (6.4%)	5 (13.2%)	16 (8.6%)
status after stroke	12 (17.4%)	3 (3.8%)	0	15 (8.1%)
Rheumatoid arthritis	0	8 (10.3%)	0	8 (4.3%)
status after polio	4 (5.8%)	1 (1.3%)	1 (2.6%)	6 (3.2%)
Total	69 (100.0%)	78(100.0%)	38(100.0%)	185(100.0%)

The above table 4.2.1 represents the medical diagnosis of the condition of respondents. Most of the participants; 36.8% were spinal cord injury patients, while 19.5% of participants had gone through amputation of lower extremity, 10.3% had club foot and the very few that is 1.1% of participants had gone through amputation of lower extremity. From all three groups, maximum patient had Spinal cord injury (SCI).

4.2.2: Duration of length of disability and use of assistive device

Table 4.2.2

Distribution of duration of disease/disability

	sample groups			
Time since development of disease or disability	Patients (n=69)	Students (n=78)	Staffs (n=38)	Total (n=185)
1-5 years	14(20.3%)	39(50.0%)	9(23.7%)	118 (63.8%)
6-10 years	11 (15.9%)	9 (11.5%)	3 (7.9%)	14 (7.6%)
>10 years	11(15.9%)	5 (6.4%)	1 (2.6%)	19 (10.3%)
congenital	33 (47.8%)	25 (32.1%)	25 (65.8%)	34 (18.4%)
M± SD	6.57±10.46	11.51±9.81	9.67±10.76	9.29±10.43

The table 4.2.2 represents the duration of disease or disability in years (the duration of postinjury to the interview date). Maximum number of respondents that is 63.8% had lived for 1 to 5 years with disability while only 7.6% had lived for 6 to 10 years with disability and 18.4% of participants had congenital origin of disability. The mean number of years that person with disabilities had been living with their disabilities was 9.29 years (median 3 years; standard deviation 10.4384).

4.2.3: Usage of assistive device in daily living

Table 4.2.3

Distribution of use of assistive device in daily living

Use of assistive device in daily living	sample groups			Total
	Patients	students	staffs	
not using	14(20.3%)	39(50.0%)	9(23.7%)	62 (33.5%)
crutches	11 (15.9%)	9 (11.5%)	3 (7.9%)	23 (12.4%)
walking frame	11(15.9%)	5 (6.4%)	1 (2.6%)	17 (9.2%)
wheelchair	33 (47.8%)	25 (32.1%)	25 (65.8%)	83 (44.9%)
Total	69 (100.0%)	78(100.0%)	38(100.0%)	185(100.0%)

The table 4.2.3 illustrate about the use of assistive device in daily living. 44.9% of the participants were found to be wheelchair bounded followed by crutches (44.9%) and walking frame (9.2%). In group patients and in group staffs, the maximum respondents were wheelchair user n= 33(47.8%) and n=25(32.1%) respectively while in group students' maximum respondents were not using any kind of assistive device n=39(50%) for daily living.

4.2.4: Mobility status with assistive device

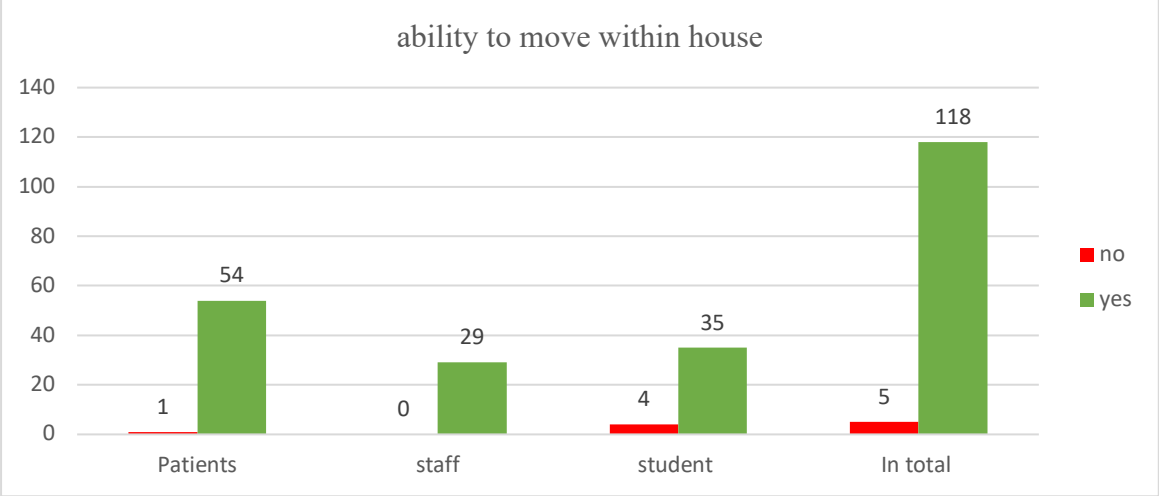


Figure 4.2.1: self-mobility status within house using assistive device

Figure 4.2.1 outlines the mobility status of person with disability by using assistive in daily living with or without help within own residence. In total of 123 participants using

assistive devices, most of them, 118(95.9%) were able to move around by themselves in their house with help of assistive device.

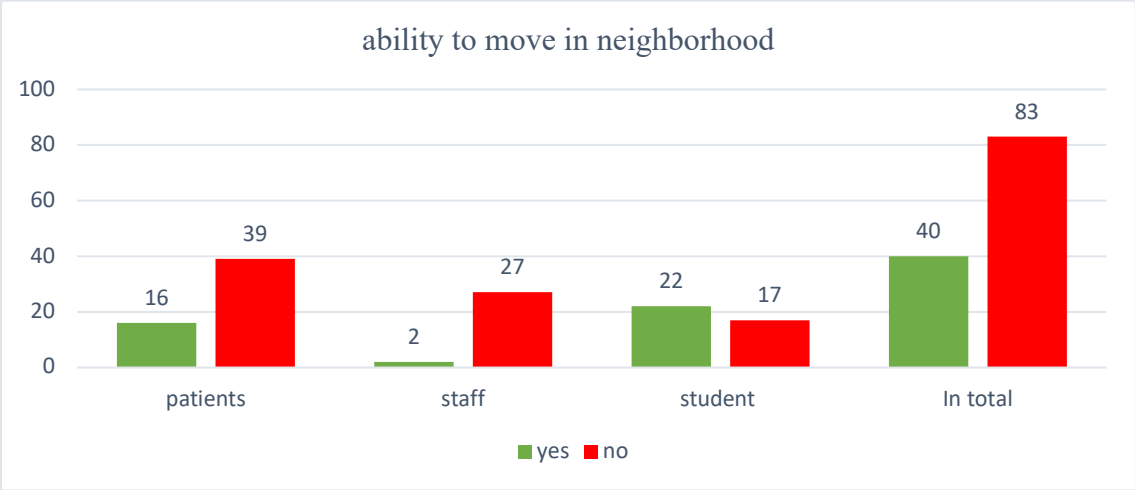


Figure 4.2.2: self-mobility status outside in neighborhood using assistive device

Figure 4.2.2 represents the context of moving outside in neighborhood, only 83 (67.4%) participants mentioned their ability to move around by themselves while remaining reported that they are unable to move outside house by themselves.

4.2.5: Presence of co-morbidities

Table 4.2.4

Distribution of presence of co-morbidities

presence of co-morbidities	sample groups			
	Patients	students	staffs	Total
No	41 (59.4%)	46 (59.0%)	22 (57.9%)	109 (58.9%)
Yes	28 (40.6%)	32 (41.0%)	16 (42.1%)	76 (41.1%)
Total	69 (100.0%)	78(100.0%)	38(100.0%)	185(100.0%)

Figure 4.2.4 represents that 41.1% (n=76) of all person with disabilities who participated in the study were presented with co-morbidities. Also, almost equal distribution is seen among three different groups.

4.3 Lifestyle factors

4.3.1: Engagement in regular exercise

Table 4.3.1

Distribution of Participants engagement in regular exercise

Engaged in regular exercise	sample groups			
	Patients	students	staffs	Total
No	32 (46.4%)	46 (59.0%)	18 (47.4%)	96 (51.9%)
Yes	37 (53.6%)	32 (41.0%)	20 (52.6%)	89 (48.1%)
Total	69 (100.0%)	78(100.0%)	38(100.0%)	185(100.0%)

The table 4.3.1 represents that there is not much differences among participants, however participants number who are engaged in regular exercise is slightly lower (48%, n=89) than those who are not engaged (52%, n=96). Comparatively, patients were found to be more engaged in exercise than other groups.

4.3.2: smoking status

Table 4.3.2:

Smoking status of participants

Smoker	sample groups			Total
	Patients	students	staffs	
No	40 (58%)	64 (82.1%)	33 (86.8%)	137 (74.1%)
Yes	29 (42%)	14(17.9%)	5 (13.2%)	48(25.9%)
Total	69 (100.0%)	78(100.0%)	38(100.0%)	185(100.0%)

Figure 4.3.2 represents that only 25.9%(n=48) of participants were smoker, whilst rest were non-smoker. Most of the smokers were from patient group.

4.3.3: Sharing opinion with others

Table 4.3.3

Distribution of participants sharing opinions with other

Sharing opinion with others	sample groups			Total
	Patients	students	staffs	
Never	5 (7.2%)	1 (1.3%)	0	6 (3.2%)
Frequently	9 (13.0%)	49(62.8%)	24(63.2%)	82 (44.3%)
Sometimes	55(79.7%)	28(35.9%)	14(36.8%)	97(52.4%)
Total	69 (100.0%)	78(100.0%)	38(100.0%)	185(100.0%)

Table 4.3.3 represents about the frequency of sharing opinion with others. More than half of the participants (53%, n=97) mentioned that they share their opinion sometimes, 44%(n=82) mentioned that they frequently share their opinion whilst remaining mentioned that they never share their opinion with others. In comparison between groups it is observed that patients are having more trouble in sharing opinion. It might be because students and staffs receive an opportunity to share their opinion at the work or school. In contrast patient might not be as outgoing as others.

4.3.4: Leisure time activities

Table 4.3.4

Common leisure time activities of person with disability

Response type	Response	%
Reading	17	9.2
Listening to music	91	49.2
Talking with other persons	81	43.8
Watching television	65	35.1
Visiting others	46	24.9
Total	185	100

Table 4.3.4 represents the common leisure time activities of person with disability. Highest response rate is observed on listening to music that is 49.2%, followed by talking with other person as 43.8%, watching television as 35.1%, visiting others as

24.9% and least response rate is observed on reading (9.2%). Most of the respondents enjoy listening to music in comparison to other activities.

4.4 Work factors

4.4.1: Employment status of participants

Table 4.4.1

Distribution of employment status of participants among sample groups

variables		Patients	Students	Staffs	Total
current working status	paid employment	13 (18.8%)	0	38 (100%)	51 (27.6%)
	Self-employment	16 (23.2%)	0	0	16 (8.6%)
	student	4 (5.8%)	78 (100%)	0	82 (44.3%)
	retired	7 (10.1%)	0	0	7 (3.8%)
	unemployed due to health	29 (42%)	0	0	29 (15.7%)
Total		69 (100%)	78(100%)	38(100%)	185(100%)
working status before becoming disabled	paid employment	34 (49.3%)	14 (17.9%)	13(34.2%)	61 (33%)
	self - employment	9 (13%)	2(2.6%)	3 (7.9%)	14 (7.6%)
	student	7 (10.1%)	22(28.2%)	12(31.6%)	41 (22.2%)
	retired	3 (4.3%)	0	0	3 (1.6%)
	unemployed	6 (8.7%)	11(14.1%)	9 (23.7%)	26 (14.1%)
	not applicable	10 (14.5%)	29 (37.2%)	1 (2.6%)	40 (21.6%)
Total		69 (100%)	78(100%)	38 (100%)	185(100%)

The working status of respondents is illustrated in table 4.4.1. In total of 185 respondents, 78 and 38 respondents were currently engaged in CRP as a student and staff respectively. The remaining 69 respondents were patients and ex-patients of CRP.

Among them, 29 were unemployed due to health conditions, 16 were self-employed, 13 were having paid employment, 7 were retired and remaining 4 were students. Similarly, for past employment status before disease or disability, 61 were having paid employment, 41 were students, 26 were unemployed, 3 were retired and for remaining 40 participants the question was not applicable because their disability was either congenital or they were attacked during their early childhood.

Table 4.4.2

Distribution of employment status of participants among gender

		Female	Male	Total
working status before becoming disabled	paid employment	14 (16.3%)	47 (47.5%)	61 (33%)
	Self-employment	6 (7%)	8 (8.1%)	14 (7.6%)
	student	23 (26.7%)	18 (18.2%)	41 (22.2%)
	retired	0	3 (3%)	3 (1.6%)
	unemployed	18 (20.9%)	8 (8.1%)	26 (14.1%)
	not applicable	25 (29.1%)	15 (15.2%)	40 (21.6%)
Total		86 (100%)	99 (100%)	185 (100%)
current working status	paid employment	29 (33.7%)	22 (22.2%)	51 (27.6%)
	Self-employment	5 (5.8%)	11 (11.1%)	16 (8.6%)
	Student	43 (50%)	39 (39.4%)	82 (44.3%)
	retired	0	7 (7.1%)	7 (3.8%)
	unemployed due to health	9 (10.5%)	20 (20.2%)	29 (15.7%)
Total		86 (100%)	99 (100%)	185 (100%)

The above table 4.4.2 represents the cross tabulation of employment status with gender. Although female is considered for having double disadvantage after disability, here we can see that female have more participation in employment and education after disability as compare to men. This result might be because of changing policies that

prioritizes women or because of the setting where the sample had been collected, as CRP focuses on inclusive and equal participation.

4.4.3: Modes of transport used to travel to workplace/school

Table 4.4.3

Distribution of modes of transport used among sample groups *n=149*

Mode of transport used	sample groups			Total
	Patients	students	staffs	
walking	3 (9.1%)	29(37.2%)	6 (15.8%)	38(2.5%)
wheeling	11(33.3%)	26(33.3%)	25 (65.8%)	62(41.6%)
being wheeled/pushed	0	1(1.3%)	0	1 (0.7%)
per riksha	19 (57.6%)	11(14.1%)	3 (7.9%)	33 (22.1%)
per CRP transport	0	11(14.1%0	4(10.5%)	15 (10.1%)
Total	33(100%)	78(100%)	38 (100%)	149 (100%)

As per table 4.4.3, total of 149 participants were currently engaged in work/school. The primary modes of transport to work was wheeling themselves (33.5%, n=62,) and walking (20.5%, n=38,). 17.8%(n=33) of employed participants used Riksha (tri-cycle rode by owner of it) as their mode of transport. 8.1%(n=15) used CRP (organization) vehicle to get to work while only one participant (0.5%, n=1)) was being wheeled to the workplace by someone else. It is observed that small population of students and staffs have relied upon riksha and CRP transport as compare to patient group this might be because most of the staff is living at the CRP hospital or nearby, as well as the students.

4.4.4: Accommodation/adjustment need in work/school

Table 4.4.4:

Distribution of accommodation/adjustment need among work/ school going participants

Work/school accommodation /adjustment needs been met	sample groups			Total
	Patients	students	staffs	
yes	30 (90.9%)	77(98.7%)	38 (100%)	145(97.3%)
no	3 (9.1%)	1 (1.3%)	0	4(2.7%)
Total	33(100%)	78 (100%)	38 (100%)	149 (100%)

Result in table 4.4.4 represents that maximum employee's needs had been met and very few requires some adjustment. This result may also be influenced by the data collection setting. As CRP environment is disability friendly and it also considers the need of participants.

4.5: Participation restriction level of person with disabilities

Table 4.5

Distribution of participation restriction level among sample groups

Participation restriction	sample groups			Total
	Patients	Students	Staffs	
No significant restriction	7 (10.1%)	22 (28.2%)	18 (47.4%)	47 (25.4%)
Mild restriction	19 (27.5%)	7 (9.0%)	6 (15.8%)	32 (17.3%)
Moderate restriction	24 (34.8%)	23 (29.5%)	5 (13.2%)	52 (28.1%)
Severe restriction	18 (26.1%)	26 (33.3%)	9 (23.7%)	53 (28.6%)
Extreme restriction	1 (1.4%)	0	0	1 (0.5%)
Total	69(100%)	78 (100%)	38 (100%)	185 (100%)

The table 4.5 represents the descriptive result of restriction level on social participation among different sample groups. The score is interpreted as; i) 0-12: no significant restriction ii)13-22: mild restriction iii) 23-32: moderate restriction iv) 33-52: severe restriction v)53-90: extreme restriction (Van Brake et al., 2006). In the above table we

can observe that maximum respondents had experienced some level of restriction in participation, out of which 28.6%, 28.1%, 17.3% and 0.5% had experienced severe restriction, moderate restriction, mild restriction and extreme restriction respectively.

4.6 scores for the scales

Table 4.6.1

Scores for 1) (CHIEF) "environmental barriers" scale plus five environmental barrier subscales 2) the Participation Scale 3) the Rosenberg self-esteem scale

Characteristics	Mean	Standard deviation	Range
Environmental barrier			
CHIEF Frequency score	1.2414	0.63	0-2.58
CHIEF Magnitude score	0.80	0.36	0-1.67
Attitude/support sub scale	1.38	1.01	0-3.50
Services/assistance sub scale	1.61	0.99	0-3.25
Physical/structural sub scale	1.92	1.02	0-4
Work/school (n=156) sub scale	0.72	0.59	0-2.50
Policies sub scale	0.28	0.70	0-4
Participation scale	23.82	11.654	2-65
Self esteem	20.93	3.254	11-28

The table 4.6.1 depicts the descriptive result of the mean and standard deviation for three different scales; the Craig Hospital Inventory of Environmental Factors (CHIEF) "environmental barriers" scale plus five environmental barrier subscales (barriers to participation), the Participation Scale (restrictions on participation) and the Rosenberg self-esteem scale. A frequency score on a scale of 0-4 indicates the frequency with which barriers were encountered. A magnitude score on a scale of 0-2 indicating the size of the problem which a barrier typically presented. A frequency-magnitude product score on a scale of 0-8 calculated as the product of the frequency score and the magnitude score, indicating the overall impact of the barrier. In CHIEF scale physical/structural barrier and policies barrier were having highest and lowest score respectively among all environmental subscale. The score was computed after adding all the questions in a subscale and dividing the obtained score by total number of

questions in subscale. In the highest possible score of 90 in participation scale, the mean was noted as 23.82±11.654 with range of 2-65, the mean scored fall on category of moderate restriction (23-32) (Van Brake et al., 2006). Further for self-esteem scale, in the highest possible score of 30, the mean was observed as 20.93±3.254 with range of 11-28, indicating overall good self-esteem score. However, huge standard deviation was observed for the score of the scales, the data in the scales are spread out from mean.

Table 4.6.2

Comparison of scores for 1) (CHIEF) "environmental barriers" scale plus five environmental barrier subscales 2) the Participation Scale 3) the Rosenberg self-esteem scale among groups

	sample type		
Scales	Patients (M± SD)	Students (M± SD)	Staffs (M± SD)
Environmental barrier scale			
CHIEF Frequency score	1.39± 0.49	1.26±0.68	0.92±0.68
CHIEF Magnitude score	0.89 ± 0.29	0.82±0.38	0.63±0.40
Attitude/support sub scale	1.55 ± 0.87	1.40±1.13	1.05±0.94
Services/assistance sub scale	1.85± 0.79	1.64±1.06	1.12±1.03
Physical/structural sub scale	2.28± 0.78	1.92±0.95	1.27±1.23
Work/school sub scale	0.9± 0.67	0.64±0.54	0.69±0.58
Policies sub scale	0.26± 0.75	0.30±0.75	0.28±0.51
Participation scale	26.20± 10.59	24.04±11.90	19.03±11.83
Self esteem	20.96± 3.05	20.44±3.78	21.89±2.05

The table 4.6.2 represents the scale scores among three sample groups. From the table it is evident that patients group had a lead in all score scale except self-esteem scale. In contrast, staffs had the least score in all the scales except self-esteem scale. From here, it is evident that patients are the most disadvantaged groups facing more barrier in environment and in participation. Though self-esteem scale mean score is found within normal range, but this group still have low self-esteem in comparison to other groups.

4.7: Comparison of restriction on social participation between sample groups

Table 4.7.1

Differences in the social participation restriction among three groups.

Sample groups	N	Mean rank	Mean	Chi-square	df	sig
Patients of CRP	69	101.64	26.20	7.597	2	**.022**
Staffs working in CRP	38	95.40	19.03			
Vocational training students of CRP	78	72.38	24.04			

Table 4.7.2

Pairwise comparison of restriction on social participation between sample groups

Sample 1- sample 2	Mean difference (sample1-sample2)	Adjusted sig
Staffs-students	-5.012	.089
Staffs- Patients	-7.177	**.020**
Students- Patients	-2.164	1.000

The data was collected from the patients (both including who came for follow up or treatment in CRP and former patients who attended the CRP annual function celebration), staffs working in the CRP and the students receiving vocational training from CRP. The test of normality was violated for conducting ANOVA, thus Kruskal-Wallis test was adopted after meeting the underlying assumption. The table 4.7.1 depicts the information about the mean ranks and mean of three different groups. Patients were found to be the most disadvantaged group. Since, the P-value < 0.05, the null hypothesis (there is no difference in restrictions on social participation in three different groups) is rejected. Here, we conclude all the population mean ranks are not equal and differences in group was determined via Krus-kal-Wallis chi-square with Dunn's multiple comparison adjustment. Table 4.7.2 represents the pairwise comparison of restriction on social participation between the sample groups and the difference is observed between staffs and patients of CRP. It is noted that there is a big difference on mean rank between groups, but not on mean score. It is because there were also persons who were having scores at the extreme level of the scale.

4.8: Influence of socio-demographic factors on participation scale

4.8.1 Influence of gender on participation scale

Table 4.8.1

Association between gender and participation scale

variables	N	Mean rank	Mann-Whitney U	p-value
Gender				
Male	99	102.91	3276.0	**0.007**
female	86	81.59		

Table 4.8.1 shows influence of gender on participation scale. Mann-Whitney test was used for two categorical variables after meeting the underlying assumptions for test. The table 4.13 indicate notable significant restriction on social participation among gender, U=3276, p=.007, with a mean rank p-scale score of 102.91 for male subjects and mean rank participation restriction score of 102.91 for than female subjects indicating higher restriction among male.

4.8.2 Influence of marital status and educational achievement on participation scale

Table 4.8.2

Association of participants characteristics with the participation scale

Variables	N	Mean rank	Chi-square	p-value
Marital status				
single	61	78.79	13.77	**0.003**
married	103	94.20		
divorced	14	124.39		
widowed	7	136.36		
Educational achievement				
primary level	40	104.78	4.258	0.372
secondary level	40	95.86		
higher secondary level	47	87.91		
tertiary level	25	78.72		
no formal education	33	93.32		

Table 4.8.2 display the result of association between personal factors and participation scale using Kruskal Wallis H test. Kruskal Wallis H test was adopted for more than two

categorical variables after testing the underlying assumptions for test. There was a statistically significant difference in restriction on social participation according to marital status ($\chi^2(2) = 13.77$, p= 0.003), with a high mean rank participation restriction score of 136.36 for widowed subjects, 124.39 for divorced subjects, 94.2 for married subjects and 78.79 for single subjects. There wasn't any significant difference for restriction according to educational achievement of participants, however the respondents who only completed their primary level had high restriction as compare to others.

4.8.3: Co-relation analysis of age and family income with participation scale

Table 4.8.3

Co-relation analysis with personal factors

		age	family income per month
Participation restriction	Pearson Correlation	.173*	-.032

*. Correlation is significant at the 0.05 level(2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed.

The correlation analysis was calculated for continuous variable for examining the variables influencing restriction on social participation. In table 4.8.3, the variable age has significant positive weak correlation (McDonald,2014) (r=0.173, N=185, p<0.05) with response variable (social participation) at 95% confidence interval level 2-tailed. Thus, it can be concluded that with increase in age the restriction on social participation also increases.

4.9 Influence of disease/disability factors on participation scale

Table 4.9.1

Association between medical diagnosis of the condition and participation scale

Variables	N	Mean rank	Chi-square	p-value
Medical diagnosis of the condition				
SCI	68	90.35	22.407	**0.004**
CP	15	111.37		
club foot	19	84.68		
status after amputation of upper extremity	2	86.50		
status after amputation of lower extremity	36	111.74		
status after GBS	16	77.38		
status after stroke	15	114.57		
Rheumatoid arthritis	8	36.31		
status after polio	6	56.50		

Table 4.9.1 shows the result of Kruskal Wallis H test. There is a significant difference between medical diagnosis of the condition and participation scale ($\chi^2(2) = 22.407$, p= 0.004), with a mean rank participation restriction score of 114.57 for after stroke participants, 111.74 for lower extremity amputee, 111.37 for Cerebral Palsy (CP) participants, 90.37 for Spinal Cord Injury (SCI) participants and least mean rank of 36.31 for participants with Rheumatoid arthritis.

Table 4.9.2

Co-relation analysis between years lived with disability and participation scale

		Years lived with disability
Participation restriction	Pearson Correlation	-.139

From the table 4.9.2 it is evident that there exists a negative weak correlation between years lived with disability and participation scale without any statistically significant difference (r= -0.139, N=185, p=0.06) at 95% confidence interval level 2-tailed.

Table 4.9.3

Association between presence of co-morbidities and participation scale

variables	N	Mean rank	Mann-Whitney U	p-value
Presence of co-morbidities				
Yes	76	112.74	2641.5	**0.000**
No	109	79.23		

The table 4.9.3 shows the association between presence of co-morbidities and scores on participation scale using Mann-Whitney U test. It is evident that participants with co-morbidities have higher score (mean rank= 112.74) in participation scale than of others (mean rank= 79.23), U= 2641.5, p= 0.000.

Table 4.9.4

Association between use of assistive device in daily living and participation scale

Variables	N	Mean rank	Chi-square	p-value
Use of assistive device				
wheelchair	83	96.01	4.499	0.212
crutches	23	110.15		
walking frame	17	82.65		
not using	62	85.44		

Table 4.9.4 illustrates the result of Kruskal Wallis H test. The participants using crutches have higher restriction on participation with mean rank of 110.15 followed by wheelchair users with mean rank of 96.01, ($\chi^2(2)$ =4.499, p=0.212). Thus, statistically significant difference isn't seen in use of assistive device in daily living and participation scale.

Table 4.9.5

Association between mobility status and participation scale

variables	N	Mean rank	Mann-Whitney U	p-value
Moving around in own house				
Yes	118	60.19	81	**0.006**
No	5	104.80		
Moving around in neighborhood				
Yes	83	53.57	960	**0.000**
No	40	79.5		

The table 4.9.5 illustrates the result of Mann-Whitney U Test for self-mobility status using assistive device in own house and in neighborhood in total score of participation scale. A Mann-Whitney test indicated that the restriction was greater for participants who cannot move around by using assistive device (mean rank=104.80 and 79.5), than those participants who can move around (mean rank= 60.19 and 53.17), U=81, p= 0.006 and U=960, p= 0.000 in own house and in neighborhood respectively. Thus, highly statistically significant difference is found in mobility status using assistive device with restriction on social participation.

4.10 Association between lifestyle factors and social participation

Table 4.10.1

Association between regular exercise, smoking status and participation scale

variables	N	Mean rank	Mann-Whitney U	p-value
Regular exercise				
Engaged	89	103.05	3377.5	**0.014**
Not engaged	96	83.68		
Smoking status				
Smoker	48	106.63	2634.0	**0.04**
Non-smoker	137	88.23		

The table 4.10.1 represents the result of Mann-Whitney U test, revealed that the participants engaged in exercise had higher score (mean rank= 103.05) in participation scale than those who were not engaged in exercise (mean rank= 83.68), U=3377.5, p= 0.014. While smoker had higher score in participation scale (mean rank= 106.63) than non-smoker (mean score= 88.23), U= 2634, p= 0.04.

Table 4.10.2

Association between frequency of sharing opinion and participation scale

Variables	N	Mean rank	Chi-square	p-value
Frequency of sharing opinion				
never	6	144.92	8.604	**0.014**
frequently	82	84.02		
sometimes	97	97.38		

The table 4.10.2 represents the result of Kruskal Wallis H test. The test reported that the participants who never share their opinion have significantly high restriction in participation with mean rank of 144.92, mean rank of 84.02 for those frequently sharing their opinion and mean rank of 97.38 who occasionally shared their opinion with others, ($\chi^2(2) = 8.604$, p= 0.014).

4.11: Association between work factors and social participation

Table 4.11.1

Association between employment status, accommodation/adjustment needs and participation scale

variables	N	Mean rank	Mann-Whitney U	p-value
Current employment status				
Engaged in work/school	149	85.68	1592	**0.000**
Unengaged in work/school	36	123.28		
Employment status before disability				
Engaged in work/school	116	72.74	1651.5	0.880
Unengaged in work/school	29	74.05		
Work/school needs				
met	145	75.51	215.5	0.381
not met	4	56.38		

The present employment status was selected based on categories of seven options: (1) paid employment, (2) self-employment, (3) volunteering, (4) student, (5) retired, (6) unemployed due to health, and (7) unemployed due to other reasons. The response

options were then merged as “engaged in work/school (categories 1–4)” and “unengaged in work/school” (categories 5–7), while the past employment status was selected based on categories of six options: (1) paid employment, (2) self-employment, (3) volunteering, (4) student, (5) retired, and (6) unemployed. The response options were then merged as “engaged in work/school (categories 1–4)” and “unengaged in work/school” (categories 5–6) (Ustun et al.,2010). In table 4.10.1, the Mann-Whitney U test revealed that restriction on participation was significantly greater for those who were currently unengaged in work/school (mean rank=123.28) than those who were engaged (mean rank=85.68), U=1592, p=.000. While employment status before disability and work/school accommodation/adjustment needs did not have any significant on participation scale.

Table 4.11.2

Association between modes of transportation used for going work/school and participation scale

Variables	N	Mean rank	Chi-square	p-value
modes of transportation used				
walking	38	69.84	8.395	0.078
wheeling	62	78.65		
being wheeled/pushed	1	137.00		
per riksha	33	82.68		
per CRP transport	15	51.93		

In table 4.11.2 the Kruskal Wallis H test depicts the higher restriction for the participants who were in need of being wheeled/pushed for getting to the work/school with mean rank of 137 but no significant difference is observed between the sample and participation scale. This result might be affected by living residence of the participants as most of the staffs and students were residing nearby data collection site; CRP and Gonakbari where the environment is made assessible for person with disability.

4.12: Co-relation analysis between self-esteem and participation scale

Table 4.12.1

Co-relation analysis between self-esteem and participation scale

		Self-esteem
Participation restriction	Pearson Correlation	-.205**

*. Correlation is significant at the 0.05 level(2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed.

Table 4.12.1 represents the correlation between self-esteem and participation scale, the variable self-esteem has negative weak correlation (r=-0.205, N=186, p<0.01) at 95% confidence interval level 2-tailed that means lower the self-esteem level, higher the restriction on social participation. Thus, it can be concluded that self-esteem is significantly associated with social participation.

4.13: Correlation analysis between environmental factors and participation scale

Table 4.13

Correlation analysis of "frequency and magnitude of environmental barriers''

		Frequency of environmental barrier	Magnitude of environmental barrier
Participation restriction	Pearson Correlation	.679**	.700**

*. Correlation is significant at the 0.05 level(2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed.

In table 4.12, frequency and magnitude of environmental barrier have strong positive correlation of (r=0.679, N=186, p<0.01) and (r=0.7, N=186, p<0.01) respectively with response variable at 95% confidence interval level 2-tailed.

4.14: Correlation analysis with environmental factors sub-scale

Table 4.14

Correlation analysis of "frequency of environmental barriers sub-scale''

		Attitude/support	Service/assistance	Physical/structural	Work/school	policies
Participation restriction	Pearson Correlation	.614**	.665**	.590**	.166*	.030

*. Correlation is significant at the 0.05 level(2-tailed).

**. Correlation is significant at sthe 0.01 level (2-tailed).

In table 4.14 all the subscale of environmental barriers has positive correlation with participation except policies, with service/assistance having highest correlation (r=0.665,N=186, p<0.01) followed by attitude/support (r=0.614,N=186, p<0.01), physical/ structural (r=0.590,N=186, p<0.01) and work/school (r=0.166, N=156, p<0.05). This implies that variables service/assistance, attitude/support and physical structural were statistically significant at the 99% confidence interval and work/school at 95% confidence interval level 2-tailed. Thus, we reject our third null hypothesis; Environmental factors don't have significant influence on social participation of PWDs.

4.15 Multiple linear regression analysis with response variable

Table 4.15.1

Partial model: result of multiple linear regression analysis of personal characteristics influencing restrictions on social participation

characteristics	Robust β coefficient	Robust SE	t	p	CI
constant	40.554	5.665	7.158	**.000**	29.374,51.734
Gender (male)	3.381	1.567	2.158	**.032**	0.289,6.474
divorced	6.622	2.887	2.294	**.023**	0.926, 12.319
Engaged in work/school	-5.876	2.122	-2.769	**.006**	-10.064, -1.688
Rheumatoid arthritis	-8.855	3.863	-2.292	**.023**	-16.478, -1.231
Presence of comorbidities	5.066	1.584	3.199	**.002**	1.941, 8.191
self-esteem score	-.755	0.236	-3.200	**.002**	-1.220, -0.289

Table 4.15.1 presents the results of the first multiple linear regression model, which only included the variables for Block 1 (personal factors). The predictive variables that had associations with $P < 0.05$ were used in a multiple linear regression model. The "dummy coding" method was applied to include the nominal variables with more than two groups. The predictive variables were incorporated into the model ~~hierarchically~~ in two blocks, with the first comprising variables related to personal factors (Block 1), and the second comprising variables related to environmental factors (Block 2). For each block, the variables were selected using the stepwise method; variables with $P < 0.05$ were maintained in the model.

The model yielded an adjusted coefficient (R^2) of 0.242 (with $P = 0.000$), indicating that, in this study, personal factors explained 24.2 % of the variance in restriction on social participation. Briefly, this partial model suggests that being male, having divorced and having multiple diagnosis significantly decreases the social participation

while factors such as being engaged in work or school, having diagnosis rheumatoid arthritis (RA) and having high self-esteem significantly increases the social participation.

Block 2: Personal factors + environmental factors

Table 4.15.2:

Final model: Result of multiple linear regression analysis of personal characteristics influencing restrictions on social participation

characteristics	Robust β coefficient	Robust SE	t	p	CI
Block 1					
(Constant)	13.352	3.980	3.354	**.001**	5.485, 21.218
Gender (male)	-.261	1.133	-.230	.818	-2.500, 1.978
divorced marital status	2.209	2.130	1.037	.301	-2.000, 6.149
Rheumatoid arthritis	-6.793	2.564	-2.649	**.009**	-11.860, -1.726
presence of co-morbidities	3.467	1.161	2.986	**.003**	1.172, 5.762
Self-esteem score	-.301	.170	-1.770	.079	-.637, .035
Block 2					
Magnitude of environmental barrier	1.380	.178	7.734	**.000**	1.027, 1.733
Attitude/support sub-scale	1.681	.365	4.601	**.000**	.959, 2.404
Work/school sub-scale	-2.257	.516	-4.374	**.000**	-3.277, -1.238

The table 4.15.2 represents the final model of multiple linear regression. The second multiple linear regression model retained the variables of the first, partial model but added the variables for Block 2 (frequency score of environmental factors) and thus shows both personal and environmental factors associated with restrictions on participants social

participation. For each block, the variables were selected using the stepwise backward method; variables with $P < 0.05$ were maintained in the model.

R^2 was equal to 0.680 (with $P = 0.000$), indicating that 68% of the variance in social participation can be explained by personal and environmental factors combined. In other words, the inclusion of the environmental factors in the linear regression led to an increase of almost 44% in the explanatory power of the final model compared to the initial, partial model (which consisted only of personal factors).

In a nutshell, the final model explains having multiple diagnosis (p=0.003), high magnitude of environmental barrier (p=0.000) and poor attitude or support(0.000) can significantly decrease the social participation while being diagnosed as Rheumatoid arthritis(0.009) and having less barrier in work/school (p=0.000) can significantly increase the social participation.

CHAPTER V
DISCUSSION

In the course of recent decades, perception regarding social consequences of injury or disease has advanced from the idea of impediment, a drawback owing to hindrance and incapacity to the concept of social participation with focus on the environmental influence which is considered as a key factor for social inclusion (Noreau & Boschen, 2010).

The social model of disability looks incapacity in the social setting not in the body impairment where people in the environment confront social biases, discrimination and absence of opportunities subsequently leading them to poverty. Further, social approach suggests the changes to be incorporated in social setting so as to ensure inclusion of individuals with impairments (Oliver, 2009). So, the study of environmental factors plays a crucial role in this regard.

Moreover, the scientific studies have also proved that interactions of person with disabilities with their environment is an indicator for measuring and evaluating the extent to social participation and determining the influential contextual factors (Noreau & Boschen, 2010; Stark, Hollingsworth, Morgan & Gray, 2007). This cross-sectional study is supposed to be a rare study conducted in South Asian context and only study in Bangladesh among person with physical disabilities that investigates the influence of sociodemographic variables, personal factors, disease or disability related factors and the environmental factors on the social participation of person with disabilities using non-parametric tests and multiple linear regression analysis.

In common life and as lay persons, the terms ‘disabled persons’ is used less precisely. To cope with this challenge, a question was added in a questionnaire regarding the medical diagnosis/ diagnostic term of their condition and these medical diagnoses were considered to be related to the disabilities that the person experiences, and a person with such medical diagnosis were considered as “a person suffering from disabilities” in this study.

The participation scale used in this study doesn't include all areas / domains of participation, especially the sub-categories, but it is also true that it will be too much for a scale. However, items regarding participation in 'communication' (ICF Chapter 3) are mostly lacking, apart from item 15 of the P scale: 'In family discussions, does your opinion count?' (World Health Organization: Geneva, 2001; Van Brake et al., 2006). Considering this aspect, two questions (17-18): 'What are your common leisure time activities- reading, listening to music, talking with other persons, watching tv, visiting others, not able to do anything or other?', 'How often do you share your opinion with others- frequently, sometimes, never ?' were added in my 'own' questionnaire and these questions are kinds of personal factors. But as a whole, P scale is a good instrument to measure the restrictions in participation. The participation scale was treated as continuous variable.

Due to the lack of adequate studies conducted among person with disabilities in the regional context, studies from affluent countries were also retrieved for supporting and comparing the findings. Most of the previous studies is conducted among spinal cord injury patients.

In this study, the majority of 53.5% participants were male between 18 to 59 with mean age of 29.39 and standard deviation of 8.6 years which alike with the study conducted in Brazil, which recorded 58% were male between 19 to 59 years old with differences in mean age of 42 and standard deviation of 12.1 years (Silva et al., 2013). Another study conducted in Bangladesh in spinal cord injury population revealed that most of the respondents; 83% were male (Kader, Perera, Sohrab Hossain & Islam, 2017). The result might vary due to the differences in study population.

Although, gender didn't show up significant association with participation in the final model of multiple linear regression, it was an unexpected finding for female reporting lower restriction on participation scale. This finding was similar to the study conducted among SCI in which female reported higher life satisfaction and community integration (Dijkers, 1999; Ahmed, Quadir, Rahman & Alamgir,2017). Also, female in this study have receive more opportunity to participate in employment and education after disability as compare to men. Considering so many inherent challenges women face to access

rehabilitative resources and services in this country, women should have reported high total participation restriction scores. However, this study included only 46.5% female subjects and they might have sustained injury with lower severity leading them to score low in total participation restriction score. It is also possible that the different family and social roles women play in this society make them less vulnerable to the major life-altering consequences that come with a SCI. This can also be the result of changing policies that prioritizes women or because of the setting where sample had been collected, as CRP considers the women participation as well both in hospital and academic setting.

While comparing the current study with another study conducted in Turkey by Akyurek, Bumin and Crowe (2019), I found this study had 55.7% married versus 41.5%, 33% single vs 51.9%, 7.6% divorced vs 6.7% and remaining 3.8% widowed vs no widowed which were quite similar. In addition to education the result slightly varied, there were 21.6% in primary, 21.6% in secondary,25.4% in higher secondary, 13.5% in tertiary and 17.8% with no formal education vs 41.9% in primary, 32.6% in secondary and higher secondary, 17% in tertiary and 8.5% with no formal education. Though the slight variation might be due to regional context the majority of the participants were literate in both studies.

Despite of being significant on univariate analysis it was noted that marital status didn't significantly appear in final model of multiple linear regression analysis, however, a high mean rank of 136.36 for widowed subjects, 124.39 for divorced subjects were observed which alike with the study that found lowest life satisfaction among separated in SCI population (Dijkers,1999).

The study conducted in the same setting with SCI patients of current research had similar result for employment status; this study had 80% engaged(employed) participants vs 79% and 20% unemployed participants vs 21% (Kader et al., 2017) while other study in different regions showed contradictory result; 69.8% and 61.5% unemployed participants (Tsai, Graves, Chan, Darkoh, Lee & Pompeii, 2017; Akyurek et al.,2019).

It was noteworthy that regardless of being highly significant on univariate analysis and on partial model of multiple linear regression employment didn't appeared on final model of

multiple linear regression. Same scenario occurred while comparing the three different groups of the study, it was evidenced that patients were most disadvantaged group as the mean rank was higher for them and also displayed significant relationship initially, but failed to sustain in the final model of multiple linear regression. So, it can be clearly noted that being engaged in work or school in a rehabilitation specialist setting or in other setting doesn't significantly impact the restriction level. This finding is supported by another study conducted in CRP, Bangladesh which also highlighted that employment has no significant impact on participation (Kader et al.,2017). This may be as a result of interviewing participants from the CRP, a specialist rehabilitation center for SCI in Bangladesh. But studies conducted in affluent countries, employment status had proven to have a significant impact on participation (Akyurek et al.,2019; Silva et al., 2013; Jang, Wang & Wang, 2005).

In study conducted in Bangladesh revealed 47% participants had monthly family income of less than 12000 Bangladesh Taka (Kader et al., 2017) while in current study 33.5% had monthly family income of 11000-20000 and 29.9% of the respondent's had family income range in between 21000-30000. The mean family income was 19977.25 with standard deviation of 11086.83.

Comparison of medical condition (clinical diagnosis) of the participants couldn't be done due to lack of data because to my knowledge, most of the study were conducted among spinal cord injury survivors in Bangladesh. Further, in this study participants with following medical conditions spinal cord injury (36.8%), status after lower extremity amputation (19.5%), club foot (10.3%), GBS (8.6%), cerebral palsy (8.1%), status after stroke (8.1%), Rheumatoid Arthritis (4.3%), status after polio (3.2%) and status after upper extremity amputation (1.1%) were interviewed . The highest mean rank of 114.57 was observed for after stroke participants and least mean rank of 36.31 was observed for Rheumatoid arthritis participants with a significant impact in participation restriction. In the final model of multiple regression analysis, it was discovered Rheumatoid arthritis patients have less restriction on social participation. It was already concluded that people with less severe form of disability have significantly higher participation in Bangladesh (Ahmed et al.,2017). But this result opposed the finding of earlier study in which it was

claimed to have no significant association on social participation. This result was from Brazil so it was difficult to make final concession (Silva et al., 2013).

The mean number of years that person with disabilities had been living with their disabilities was found to be 9.295 years with standard deviation of 10.4384 which contraindicated with study conducted in United states where the mean duration lived with disability was 3.69 years with standard deviation of 3.12 (Tsai et al., 2017). Similarly, another study displayed the mean duration as 16 and 3 years with standard deviation of 8 and 1 in USA and Turkey respectively (Dijkers, Yavuzer, Ergin, Weitzenkamp, & Whiteneck, 2002).

In this study, all of the participants were using some kind of assistive device except 33.5% and most of them were found to be wheelchair user followed by crutches and walking frame. This finding was similar with other study where only 33.3% were independently mobile and others were using assistive device for mobility (Akyurek et al.,2019). Among these users, 96% and 67% were able to move within house and around neighborhood with respectively. Also, the mean rank of 104.80 and 79.5 was found for participants who cannot move around by themselves in own house and in neighborhood respectively.

A Mann-Whitney test exhibited highly statistically significant difference U=81, p= 0.006 and U=960, p= 0.000 in mobility status using assistive devices in own house and in neighborhood respectively on social participation restriction but consistent result was not seen in multiple linear regression. However, it has been laid out that restriction is higher among the participants who are dependent on others for being mobile even with assistive device. The prior study had also highlighted about the capacity to maneuver the assistive device indoor can facilitate participation (Carver, Ganus, Ivey, Plummer & Eubank, 2015).

The Pearson correlation analysis was calculated for continuous variable for examining the variables influencing restriction on social participation, variable age showed a significant positive correlation with social participation but didn't appear in final model of regression analysis while disease duration didn't show a significant association anywhere which

contradicted with other finding. The study also mention that the result may be due to the possibility of variables nature (Mikula et al., 2016).

The variables; gender, age, marital status, employment status, mobility with assistive device, exercise, smoking status, sharing opinion and self-esteem score were not independently associated to participation restrictions when controlling for the other predictive variables, despite demonstrating significant association with univariate analysis. This finding illustrates a major pitfall in relying on univariate analysis. Very few studies conducted in Bangladesh have relied on multiple linear regression analysis. In 2017, Kader et al., claims to conduct the multiple regression analysis for the first time to analyze socio-demographic and injury related factors leading to activity limitation and participation restriction in Bangladesh. Further, consistent result was observed for exercise and smoking status that didn't lay up any impact on study (Silva et al., 2013).

Sharing experience with peers plays a critical role in managing disability in Bangladesh (Maloni et al.,2010). Except 3% almost all of the participants share their opinion with others. Even with the highest mean rank for participants who didn't share opinion with others, no significant impact was laid down in the final model.

No any significant difference was noted on educational level, family income, duration lived with disability, assistive device usage, employment status before disability, work/school adjustment needs and use of transportation mode while going to work/school with participation restriction in univariate analysis as well.

In this study 41% of person with disabilities who participated were presented with co-morbidities. After controlling other variables in multiple linear regression final model, it was evident that having multiple diagnosis had a significant impact in reducing social participation. This finding was new for the study conducted in Bangladesh (Ahmed et al.,2017) but however more future research is suggested to conclude this finding because being contingent upon self-detailing of optional medical issues without extra tests may have generated some bias.

In this study self-esteem have shown a highly significant inverse weak correlation on participation with Pearson correlation coefficient. In final model of regression analysis also revealed the inverse relationship meaning lower the self-esteem higher the restriction on participation but no significant relationship was observed, p= 0.079. Similar finding was found in study conducted among multiple sclerosis self-esteem wasn't evidenced as a significant predictor for social participation (Mikula et al.,2016)

The final model explains, having multiple diagnosis, high magnitude of environmental barrier and poor attitude or support can significantly decrease the social participation while in contrast being diagnosed as Rheumatoid arthritis and having less barrier in work/school can significantly increase the social participation. Only two personal factors evolved in the final model of linear regression analysis. It has been already discussed above about how having comorbidities and less severe form of disability can affect the social participation.

While computing the mean score for CHIEF scale physical/structural barrier (1.92±1.02) and policies barrier (0.28± 0.70) had highest and lowest score respectively among all environmental subscale barrier. Many studies had discovered that person with disabilities face more problem in a physical or structural dimension compared to other dimensions, the average was found as 1.32±1.71, 0.80± 0.65 (Tsai et al., 2017; Silva et al., 2013).

In the final model only two dimensions; attitude/support and work/school succeed to establish relationship with social participation. In other words, the greater the frequency of environmental barrier, more specifically the barriers related to attitudes and support, the greater the increase in restrictions on social participation and conversely the less the barrier on work and school, the less the restriction on social participation of patients with various disability/health conditions. This explains the environmental barrier faced in everyday life can be a result for decreased social participation. In this study, the environmental factors with adverse effects on social participation was poor attitude and social support. Other studies examining the relationship between environmental factors and participation also found the poor attitude and support to be the one of the barriers to participation (Silva et al., 2013; Verdonschot et al.,2009; Ephraim, MacKenzie, Wegener, Dillingham & Pezzin,

2006; Keysor, Jette, Coster, Bettger & Haley,2006). In the current study, in addition to the attitude in home and discrimination in the environment, availability of support and good attitude in the work or school setting act as a vital to social participation. Access to appropriate support and help in the home, work or school and community is extremely important, as these can help the individual return to an active life (Silva et al., 2013; Dijkers et al.,2002).

Some authors have found that physical and structural setting in environment, unavailability to service and assistance lead to restrictions on participation in social situations (Silva et al., 2013; Whiteneck et al., 2004b; Dijkers et al.,2002). The less the problem encountered in the areas of physical/structural, work and education, and policies in CHIEF-S, the less the problem faced on social participation (Lund & Lexell, 2009).The constructed environment is often reported as a barrier by specific groups, such as persons with mobility restrictions (Lund & Lexell, 2009; Keysor et al.,2006).

In current study, the staff of CRP are all having a paid job while conversely all the vocational training students were receiving training free of cost, apart from registration and certificate fees depending on the course duration that isn't more than thousand Bangladeshi Taka. Staffs of CRP live either at the CRP area or in the near neighborhood, or at the Gonakbari campus. The same is true for the momentarily situation of the students. Moreover, at the CRP and Gonakbari site the environment is positive in attitude and there are minimal physical barriers (presence of pavements, ramps, broad corridors). The CRP and Gonakbari sites (and homes) are made accessible for persons that need a wheelchair for moving around outside of the house. The environment is adapted to wheelchair users. And accessible transportation to and from CRP is also provided for those who are needing that. This might be one of the causes for not displaying a significant relationship with physical and structural barrier in participation score.

Strength and limitation of the study

As far as we know these kinds of studies rarely have contribution in the field of rehabilitation. Apart from this, first time such advanced statistical methods have been used

to analyze diverse factors and variables. The three sub groups with sociodemographic comparison have been included in the study.

Since this study collected data in only one setting CRP, it missed those who were not present in CRP at the time of data collection. The exclusion of those participants might have introduced a bias. The staff and students of CRP are living at CRP or Gonakbari or nearby, where the environment is disability friendly. Apart from (some of) the (ex-)patients, most of the study sample lives in another situation as those disabled persons living elsewhere in Bangladesh. Thus, the results are probably not generalizable to the situation in the whole of Bangladesh

CHAPTER VI
CONCLUSION AND RECOMMENDATIONS

In a final note, the main result of this study was except 25.4% almost all the participants experience some degree of restrictions on social participation. The personal factors related with participation were participants who were diagnosed with RA and who were having more than one disease. While the environmental factors such as barrier associated to attitude/support and work/school were significantly influencing the participation.

This study provides new empirical evidence that personal factors and environmental barriers do influence participation . It can be concluded that, how good participation and self-esteem can be notwithstanding with severe disability status if attitude and build environment are made disability-friendly / design for all such as in the CRP sites.

Thus, restrictions on social participation cannot be attributed solely to individual differences. Given the opportunity for an individual to participate socially, resources should be invested in reducing barriers to and enhancing the factors that facilitate the full participation and greater involvement of people disabled by health conditions or diseases in day-to-day social interactions.

Future studies might aim to analyze and present information of same kind with similar instruments on ex patients of CRP residing in their own environment (urban, semi-rural and rural areas) from other parts of Bangladesh. As far as we know very few studies in Bangladesh have contributed to the area of social setting that analyzes the impact of environmental barrier. More studies can be conducted in future to validate the findings of current study.

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Appendix I: Information sheet

I am Laxmi Paudel, student of M Sc. in Rehabilitation Science under Dhaka University, BHPI, CRP, Savar of Bangladesh. Towards fulfillment of the course module it is obligatory to conduct a research study. In this regard, I would like to invite you to take part in the research study, titled "Factors related to social participation of persons with disabilities at Center for the Rehabilitation of the Paralyzed". The aim of the study is to measure the social participation of persons with disabilities and its relationship with sociodemographic, personal and environmental factors.

Your participation in this study is voluntary. If you do not agree to participate at all, you can withdraw your support to the study anytime whenever you want, despite consenting to take part earlier. There will be no change in this regard to participate or not to participate in this study. Your answer will be recorded in this questionnaire which will take approximately 30 minutes and will be kept highly confidential and private. You will not be paid for your participation. Participation in this study might not benefit you directly. This study will not the cause any risk or harm to you. Confidentiality of all documents will be highly maintained. Collected data will never be used in such a way that you could be identified in any presentation or publication without your permission. If you have any question now or later regarding the study, please feel free to ask the person stated below.

Laxmi Paudel
M Sc. in Rehabilitation Science
BHPI, CRP-Chapain, Savar, Dhaka-1343
Cell Phone: 88-01323721456
Email: Laxmipaudel2052@gmail.com

Appendix II: Institutional review board form

BANGLADESH HEALTH PROFESSIONS INSTITUTE

বাংলাদেশ হেল্‌থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)

Bangladesh Health Professions Institute (BHPI)

(The Academic Institute of CRP)

Ref: CRP-BHPI/IRB/09/19/1322 Date: 07/09/2019

To,
Laxmi Paudel
5th Batch M.Sc. in Rehabilitation Science
Session: 2018-2019, Student ID 181180128
BHPI, CRP-Savar, Dhaka-1343, Bangladesh

Subject: Approval of thesis proposal **"Factors Related to Social Participation of Person with Disabilities at CRP"** by ethics committee.

Dear Laxmi Paudel,

Congratulations.

The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application to conduct the above mention thesis, with yourself, as the Principal Investigator. The following documents have been reviewed and approved:

S.N.	Name of Documents
1.	Thesis Proposal
2.	Questionnaire (English and Bengali version)
3.	Information sheet & consent form.

The study involves use of questionnaires including Participation scale (p-scale), Craig Hospital Inventory of Environmental Factors short form (CHIEF-SF), Rosenberg's Self-esteem scale to identify the **Factors related to social participation of persons with disabilities at CRP.** That may take up to 30 minutes to fill in the questionnaire or participate in the test. There is no likelihood of any harm to the participants. The members of the Ethics committee have approved the study to be conducted in the presented form at the meeting held at 10AM on 18 February, 2019 at BHPI.

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

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

Appendix III: Permission letter

To,

Date: 11/09/2019

The head of program

CRP-Savar, Dhaka-1343, Bangladesh

Subject: Application for granting permission for data collection.

Respected madam,

With due respect, I am Laxmi Paudel, student of M.Sc. in Rehabilitation Science program at Bangladesh Health Professions Institute (BHPI)- an academic institute of CRP under Faculty of Medicine, University of Dhaka (DU). This is a 2-year full-time course under the project of "Regional Inter-Professional Master program in Rehabilitation Science" funded by SAARC Development Fund (SDF). As required by course curriculum, I have to conduct a thesis entitled, **"Factors related to level of social participation of persons with physical disabilities at CRP",** under the honorable supervisor, **Dr. Kamal Ahmed,** Former Associate Professor, IHT, Mohakhali.

The study involves use of questionnaires including Rosenberg self-esteem scale, Participation scale(P-scale), Craig Hospital Inventory of Environmental Factors (CHIEF-S) form for determining the self-esteem, participation level, environmental barriers and personal characteristics andthat may take upto 30 minutes to fill in the questionnaire. The participants of my study are person with disabilities including staffs, students and patients present in CRP and Gonakhbari at the time of data collection There is no likelihood of any harm to the participants. Related information will be collected from the participants. Data collectors will receive informed consent from all participants. Any data collected will be kept confidential.

I therefore, hope that you would be kind enough to accept my application and grant me permission to collect data to accomplish my research and thesis work.

Sincerely,

Laxmi Paudel

MRS 5th Batch

Student of M.Sc. in Rehabilitation Science (MRS)

BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Recommended upon IRB Approval and Clearance

Recommended for Board consideration for consideration

11/09/2019

Muhammad Millat Hossain
Assistant Professor
Project & Course Coordinator
Dept of Rehabilitation Science
BHPI CRP Savar, Dhaka-1343, Bangladesh

Recommended

Updated topic: Factors related to social participation of person with disabilities at CRP.

approved.

Appendix IV: Informed consent

I am **Ms. Laxmi Paudel** student of Masters in Rehabilitation Science, BHPI, CPR-Chapain, Savar, Dhaka. I am doing a research on "Factors related to social participation of persons with disabilities at Center for the Rehabilitation of the Paralyzed" which proposal has been checked on and affirmed by the Ethics Review Committee of BHPI. This form provides you information and invites you to be part of this research. You may discuss the research with anyone you are comfortable with before making a decision to participate or not. The instrument may contain certain words that may be difficult to understand. Kindly don't delay to inquire from me anytime in the event, in situation having any inquiries or need explanation.

Be guaranteed that every one of your answers are private and no data about the examination will be distributed or published in any structure that would enable any person to be recognized. All data is coded with the goal that you will stay anonymous. I might want to get some information regarding personal details and health related details by having face to face interview and will take about 15 minutes to gather the information according to the questionnaire. It may not cause any physical or mental risk or harm during or after participating this study. Participating in study is voluntary and you can generally quit from the investigation if you wish.

This information given, my question to you is: "are you willing to participate"?

a) Yes

b) No

I have studied the above mention information, or it has been told and explained to me. I have had the chance to pose inquiries about it and any inquiries that I have posed have been offered an explanation agreeable to me. I agree voluntarily to participate as a participant in this research.

Name: …….

Signature: …… Date: ……

সম্মতি পত্র

আমি মিস লক্ষি পাওডেন বিএইচপিআই সিআরপি সাভারে মাষ্টার্স ইন রিহেবিলিটেশন সায়েন্স এ অধ্যয়নরত একজন ছাত্রী। বিএইচপিআই এর ইথিক্যাল রিভিউ কমিটি কর্তৃক পরীক্ষিত ও অনুমোদিত **Factors related to social participation of persons with disabilities at Center for the Rehabilitation of the Paralysed** বিষয়ের উপর আমি গবেষনা করছি।এই ফরমটিতে আপনি এ গবেষনাটির উপর প্রদত্ত তথ্যাদি পাবেন এবং আপনাকে এ গবেষনার একজন অংশগ্রহনকারী হিসাবে থাকার জন্য আমার জানাচ্ছি। আপনি আপনার পছন্দ অনুযায়ী যে কারও সাথে এ গবেষনাটি নিয়ে আলোচনা করে তারপর আপনি সিদ্ধান্ত নিতে পারেন যে, আপনি এ গবেষনায় অংশগ্রহন করবেন কি করবেন না ।এ প্রশ্ন পত্রটিতে বুঝতে অসুবিধা হওয়ার মত কিছু শব্দ থাকতে পারে। অনুগ্রহ পূর্বক কোন প্রকার দ্বিধা বা বিলম্ব না করে বুঝতে অসুবিধা হয় এমন শব্দ গুলির অর্থ অথবা ব্যাখ্যা জানতে আমাকে জিজ্ঞেস করুন। এ ব্যাপারে নিশ্চিত থাকুন যে, আপনার প্রতিটি উত্তর ব্যক্তিগত হিসাবে বিবেচিত হবে এবং পরীক্ষা নিরীক্ষার কোন তথ্য বিতরণ বা প্রকাশ করা হবে না,এবং প্রদত্ত তথ্যাদি কার থেকে সংগ্রহ করা হয়েছে সে বিষয়ে পরিচিতি থাকবে না। প্রতিটি তথ্যে কোড থাকবে উদ্দেশ্য এই যে, আপনার পরিচিতি প্রকাশ পাবে না। এই প্রশ্নপত্র অনুযায়ী আনুমানিক ১৫ মিনিট সময় ব্যয় করে মুখোমুখি প্রশ্নোত্তরের মাধ্যমে আমি কিছু ব্যাক্তিগত এবং স্বাস্থ্য বিষয়ক তথ্য সংগ্রহ করব। এই গবেষণায় অংশ গ্রহনে সময় কিংবা পরবর্তিতে কোন প্রকার শারিরীক বা মানসিক ক্ষতি হওয়ার সম্ভাবনা নাই।

এ গবেষনায় অংশগ্রহন সম্পূর্ন ঐচ্ছিক এবং আপনি ইচ্ছে করলে অংশগহনের পর যেকোন সময় আপনার অংশগ্রহন ত্যাগ করতে পারবেন।

এই প্রশ্নপত্রে আপনার নিকট চাওয়া তথ্যাদি প্রদানে আপনি কি ইচ্ছুক ?

ক) হ্যাঁ

খ) না

আমি উপরে উল্লেখিত তথ্যাদি যা আমাকে বলা হয়েছে এবং ব্যাখ্যা করা হয়েছে সেগুলো পাঠ করেছি। আমার জানার জন্য যা কিছু প্রশ্ন বা তার ব্যাখ্যা যা আমার বুঝা এবং গ্রহন করার জন্য প্রয়োজন তা জেনেছি।

আমি নিজ ইচ্ছায় এ গবেষনায় অংশগ্রহনে রাজী আছি।

নামঃ----------

স্বাক্ষরঃ---------- তারিখঃ----------

Appendix V

Questionnaires : English Version

Socio-demographic questionnaire:

1. Age:
2. Gender: ☐ male ☐ female
3. Marital status: ☐Single. ☐Married. ☐Divorced ☐Widow
4. Education achievement till now: _____
5. Sample type:
   - ☐ Patient visiting CRP
   - ☐ Staff of CRP
   - ☐ Student of CRP
6. Current working status :

☐ paid employment ☐ self-employment ☐ volunteering ☐ student
☐ retired ☐ unemployed due to health
☐ unemployed due to other reasons.

7. Working status before becoming disabled:

☐ paid employment ☐ self-employment ☐ volunteering ☐ student
☐ retired

8. Family income per month _____
9. Medical diagnosis of the condition/type of disability:
   - Spinal Cord Injury ☐
   - Cerebral Palsy ☐
   - Clubfoot ☐
   - Status after amputation of upper extremity ☐
   - Status after amputation of lower extremity ☐
   - Status after polio ☐
   - Status after stroke ☐
   - Rheumatoid arthritis ☐
   - other diagnosis (specify)_____
10. Time since development of disease/ disability _____

11. Are you using any assistive device in your daily living? ☐ Yes ☐ No

If yes please specify.

Crutches ☐, walking frame ☐, wheelchair ☐, other ☐_____

12. Can you move around by yourself by these assistive devices:

- in your own house? ☐ Yes ☐ No

- outside, in your neighborhood? ☐ Yes ☐ No

13. Presence of co-morbidities ☐ Yes ☐ No

14. Are you engaged in regular exercise? ☐ Yes ☐ No

15. Are you a smoker? ☐ Yes ☐ No

16. Do you consume alcohol? ☐Yes ☐ No

17. What are your common leisure time activities?

☐reading, ☐ listening to music, ☐ talking with other persons, ☐ watching tv, ☐ visiting others, ☐ not able to do anything, ☐ other, ….

18. How often do you share your opinion with others?

☐ Frequently ☐ sometimes ☐ never

Please fill the below questionnaire if you are currently working or studying.

19. Is your immediate line manager/instructor aware of your disability?

☐ Yes ☐ No ☐ Unsure

20. Have your work/school accommodation/adjustment needs been met?

☐ Yes ☐ No

21. How do you get to work or school from where you live?

☐ Walking, ☐ wheeling, ☐ being wheeled/pushed, ☐ per riksha, ☐ per CRP transport, ☐ per private car, ☐ other, …….

Rosenberg self esteem scale

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle **SA**. If you agree with the statement, circle **A**. If you disagree, circle **D**. If you strongly disagree, circle **SD**.

1.	On the whole, I am satisfied with myself.	SA A D SD
2.*	At times, I think I am no good at all.	SA A D SD
3.	I feel that I have a number of good qualities.	SA A D SD
4.	I am able to do things as well as most other people.	SA A D SD
5.*	I feel I do not have much to be proud of.	SA A D SD
6.*	I certainly feel useless at times.	SA A D SD
7.	I feel that I'm a person of worth, at least on an equal plane with others.	SA A D SD
8.*	I wish I could have more respect for myself.	SA A D SD
9.*	All in all, I am inclined to feel that I am a failure.	SA A D SD
10.	I take a positive attitude toward myself.	SA A D SD

Scores are calculated as follows:

• For items 1, 2, 4, 6, and 7:

Strongly agree = 3 Agree = 2 Disagree = 1 Strongly disagree = 0

• For items 3, 5, 8, 9, and 10 (which are reversed in valence):

Strongly agree = 0 Agree = 1 Disagree = 2 Strongly disagree = 3

The scale ranges from 0-30. Scores between 15 and 25 are within normal range; scores below 15 suggest low self-esteem.

Craig Hospital Inventory of Environmental Factors (CHIEF) scale

First, please tell me how often each of the following has been a barrier to your own participation in the activities that matter to you. Think about the past year, and tell me whether each item on the list below has been a problem **daily, weekly, monthly, less than monthly, or never.** If the item occurs, then answer the question as to how big a problem the item is with regard to your participation in the activities that matter to you.

(Note: if a question asks specifically about **school or work** and you neither work nor attend school, check not applicable)

	Daily	Weekly	Monthly	Less than monthly	Never	Not applicable	Big problem	Little problem
1. In the past 12 months, how often has the availability of transportation been a problem for you?	O	O	O	O	O			
When this problem occurs has it been a big problem or a little problem?							O	O
2. In the past 12 months, how often has the natural environment - temperature, terrain, climate - made it difficult to do what you want or need to do?	O	O	O	O	O			
When this problem occurs has it been a big problem or a little problem?							O	O
3. In the past 12 months, how often have other aspects of your surroundings - lighting, noise, crowds, etc - made it difficult to do what you want or need to do?	O	O	O	O	O			
When this problem occurs has it been a big problem or a little problem?							O	O
4. In the past 12 months, how often has the information you wanted or needed not been available in a format you can use or understand?	O	O	O	O	O			
When this problem occurs has it been a big problem or a little problem?							O	O
5. In the past 12 months, how often has the availability of health care services and medical care been a problem for you?	O	O	O	O	O			
When this problem occurs has it been a big problem or a little problem?							O	O
6. In the past 12 months, how often did you need someone else's help in your home and could not get it easily?	O	O	O	O	O			
When this problem occurs has it been a big problem or a little problem?							O	O
7. In the past 12 months, how often did you need someone else's help at school or work and could not get it easily?	O	O	O	O	O	O		
When this problem occurs has it been a big problem or a little problem?							O	O

	Daily	Weekly	Monthly	Less than monthly	Never	Not applicable	Big problem	Little problem
8. In the past 12 months, how often have other people's attitudes toward you been a problem at home?	O	O	O	O	O			
When this problem occurs has it been a big problem or a little problem?							O	O
9. In the past 12 months, how often have other people's attitudes toward you been a problem at school or work?	O	O	O	O	O	O		
When this problem occurs has it been a big problem or a little problem?							O	O
10. In the past 12 months, how often did you experience prejudice or discrimination?	O	O	O	O	O			
When this problem occurs has it been a big problem or a little problem?							O	O
11. In the past 12 months, how often did the policies and rules of businesses and organizations make problems for you?	O	O	O	O	O			
When this problem occurs has it been a big problem or a little problem?							O	O
12. In the past 12 months, how often did government programs and policies make it difficult to do what you want or need to do?	O	O	O	O	O			
When this problem occurs has it been a big problem or a little problem?							O	O

No	Participation Scale	Not specified, not answered	Yes	Sometimes	No	Irrelevant, I don't want to, don't have	NO problem	Small	Medium	Large	SCORE
1	Do you have equal opportunity as your peers to find work?		0			0					
	[if sometimes or no] How big a problem is it to you?						1	2	3	5	
2	Do you work as hard as your peers do? (same hours, type of work etc)		0			0					
	[if sometimes or no] How big a problem is it to you?						1	2	3	5	
3	Do you contribute to the household economically in a similar way to your peers?		0			0					
	[if sometimes or no] How big a problem is it to you?						1	2	3	5	
4	Do you make visits outside your village / neighbourhood as much as your peers do? (except for treatment) e.g. bazaars, markets		0			0					
	[if sometimes or no] How big a problem is it to you?						1	2	3	5	
5	Do you take part in major festivals and rituals as your peers do? (e.g. weddings, funerals, religious festivals)		0			0					
	[if sometimes or no] How big a problem is it to you?						1	2	3	5	
6	Do you take as much part in casual recreational/social activities as do your peers? (e.g. sports, chat, meetings)		0			0					
	[if sometimes or no] How big a problem is it to you?						1	2	3	5	
7	Are you as socially active as your peers are? (e.g. in religious/community affairs)		0			0					
	[if sometimes or no] How big a problem is it to you?						1	2	3	5	
8	Do you have the same respect in the community as your peers?		0			0					
	[if sometimes or no] How big a problem is it to you?						1	2	3	5	
9	Do you have opportunity to take care of yourself (appearance, nutrition, health, etc.) as well as your peers?		0			0					
	[if sometimes or no] How big a problem is it to you?						1	2	3	5	
10	Do you have the same opportunities as your peers to start or maintain a long-term relationship with a life partner?		0			0					
	[if sometimes or no] How big a problem is it to you?						1	2	3	5	
11	Do you visit other people in the community as often as other people do?		0			0					
	[if sometimes or no] How big a problem is it for you?						1	2	3	5	

No	Participation Scale	Not specified, not answered	Yes	Sometimes	No	Irrelevant, I don't want to, don't have	NO problem	Small	Medium	Large	SCORE
12	Do you move around inside and outside the house and around the village / neighbourhood just as other people do?		0			0					
	[if sometimes or no] How big a problem is it to you?						1	2	3	5	
13	In your village / neighbourhood, do you visit public places as often as other people do? (e.g. schools, shops, offices, market and tea/coffee shops)		0			0					
	[if sometimes or no] How big a problem is it to you?						1	2	3	5	
14	In your home, do you do household work?		0			0					
	[if sometimes or no] How big a problem is it to you?						1	2	3	5	
15	In family discussions, does your opinion count?		0			0					
	[if sometimes or no] How big a problem is it to you?						1	2	3	5	
16	Do you help other people (e.g. neighbours, friends or relatives)?		0			0					
	[if sometimes or no] How big a problem is it to you?						1	2	3	5	
17	Are you comfortable meeting new people?		0			0					
	[if sometimes or no] How big a problem is it to you?						1	2	3	5	
18	Do you feel confident to try to learn new things?		0			0					
	[if sometimes or no] How big a problem is it to you?						1	2	3	5	

TOTAL

Comment:

Name: _____

Age:_____ Gender: _____

Interviewer: _____ Date of interview:_____/ _

_____/ _____

Grades of participation restriction

No significant restriction	Mild restriction	Moderate restriction	Severe restriction	Extreme restriction
0 – 12	13 – 22	23 – 32	33 – 52	53 – 90

প্রশ্নমালা

জন সামাজিক প্রশ্ন সমূহঃ

১। বয়স

২। লিঙ্গ ☐ নর/পুরুষ ☐ নারী/মহিলা

৩। বৈবাহিক অবস্থা ঃ

☐ একা ☐ বিবাহিত/বিবাহিতা ☐ তালাক প্রাপ্ত/প্রাপ্তা ☐ ধবা/বিপত্নীক

৪। এখন পর্যন্ত শিক্ষা অর্জন ঃ.....

৫। নমুনার ধরণ ঃ

☐ সি আর পি -তে আগত রোগী

☐ সি আর পি এর স্টাফ

☐ সি আর পি এর ছাত্র/ছাত্রী

৬। বর্তমান কাজের পদমর্যাদা (রোগীর জন্য)

☐ বেতনভূক্ত চাকুরীজীবি ☐ স্ব - নিয়োজিত ☐ স্বেচ্ছাসেবক / ☐ স্বেচ্ছাসেবিকা

☐ ছাত্র-ছাত্রী/শিক্ষার্থী ☐ অবসর প্রাপ্ত ☐ স্বাস্থ্যগত কারনে চাকুরীচ্যুত

অন্য কারনে চাকুরীচ্যুত

৭। অক্ষম হওয়ার পূর্বে কর্মস্থলের পদমর্যাদা ঃ

☐ বেতনভূক্ত চাকুরীজীবি ☐ স্ব নিয়োজিত ☐ স্বেচ্ছাসেবক ☐ স্বেচ্ছাসেবিকা ☐ শিক্ষার্থী ☐

☐ অবসর প্রাপ্ত □□□□□

৮। পারিবারিক মাসিক আয়.....

৯। ডাক্তারী পরীক্ষায় নির্ণয় কৃত অবস্থা/ অক্ষমতার ধরন

মেরুদন্ডে আঘাত ☐
সেরেব্রাল পালসি ☐
বক্র পদ/ জন্ম থেকে পদবক্রতা ☐
হাতের অ্যাম্পুটেশনের পর অবস্থা ☐
পায়ের অ্যাম্পুটেশনের পর অবস্থা ☐
জিবিএস হওয়ার পর অবস্থা ☐
স্টোকের পরের অবস্থা ☐
বাত জ্বর ☐

অন্যান্যরোগনির্ণয়.....

১০। অসুস্থতা/ অক্ষমতার সময় কাল.....

১১। আপনার প্রাত্যহিক জীবনে কোন সহায়ক উপকরন ব্যবহার করছেন কি ? হ্যাঁ☐ না ☐

যদি হ্যাঁ হয় তবে সুনির্দিষ্ট করুন.

☐ ক্রাচ ☐ হাটার জন্য কাঠামো ☐ হুইল চেয়ার অন্যান্য.....

১২। আপনি কি সহায়ক উপকরণ/ সরঞ্জাম ব্যবহার করে চলাচলে সক্ষম

- আপনার নিজ বাড়িতে ; হ্যাঁ ☐ না ☐
- আপনার বাড়ির বাহিরে ; হ্যাঁ ☐ না ☐

১৩। অসুস্থতার অনুসঙ্গতা আছে কি ? হ্যাঁ ☐ না ☐

১৪। আপনি কি নিয়মিত শরীরচর্চা করেন ? হ্যাঁ ☐ না ☐

১৫। আপনি কি ধুমপায়ী ? ☐ হ্যাঁ ☐ না

১৬। আপনি কি এলকোহল সেবনকারী ? ☐ হ্যাঁ ☐ না

১৭। আপনার অবসরকালীন সাধারন কর্মকান্ড সমূহ কি কি ?

☐ পড়াশোনা করা ☐ গান শোনা ☐ অন্য কারো সাথে কথা বলা

☐ টেলিভিশন দেখা ☐ কোথাও বেড়াতে যাওয়া ☐ কিছু করতে না পারা

☐ অন্যকিছু হলে উল্লেখ্য করা.....

১৮। আপনি অন্যদের সাথে কতবার মত বিনিময় করেন ?

☐ সদা সর্বদা ☐ মাঝে মাঝে ☐ কখনও নয়

যদি আপনি বর্তমানে কর্মজীবি অথবা শিক্ষার্থী হন তবে নীচের অংশ পূরন করুন ঃ

১৯। অপনার লাইন ম্যানেজার/ নির্দেশক আপনার অক্ষমতা সম্পর্কে অবগত করেছেন কি ?

☐ হ্যাঁ ☐ না ☐ অনিশ্চিত

২০। আপনার কর্মক্ষেত্রে/স্কুলে আপনার চাহিদা অনুযায়ী ব্যবস্থা ঠিক আছে কি?

☐ হ্যাঁ ☐ না

২১। আপনার বাসস্থান হতে কর্মস্থলে অথবা শিক্ষা প্রতিষ্ঠানে কি ভাবে যাতায়াত করেন?

সঠিক মন্তব্যে টিক চিহ্ন দিন :

☐ হেঁটে ☐ হুইল চেয়ারে ☐ হুইল চেয়ারে অন্যের সাহায্যে

☐ রিক্সা দিয়ে ☐ সি আর পি যানবাহনে ☐ জ গাড়িতে

☐ অন্যান্য হলে উল্লেখ্য করুন.....

নির্দেশনা

আপনি নিজেকে কিভাবে দেখেন তা পরিমাপ করার জন্য নিচের উক্তি গুলি তৈরি করা হয়েছে। প্রতিটি উক্তি যত্ন সহকারে পড়ে আপনার অনুভূতির মাত্রা নির্দেশ করুন। অনুভূতির মাত্রা নির্দেশ করার জন্য চারটি সম্ভাব্য উত্তর সম্পূর্ণ একমত, 'একমত', 'একমত

নই', 'একেবারে একমত নই' প্রতিটি উক্তির ডান পাশে দেয়া আছে। যে উত্তরটি আপনার অনুভূতির বা মতমতকে সবচেয়ে ভালভাবে বর্ণনা সেটিতে টিক (√) চিহ্ন দিন।

ক্রমিক নং	উক্তি	সম্পূর্ণ একমত	একমত	একমত নই	একেবারে একমত নই
০১	আমি মনে করি অন্যদের সাথে বিচার করলে আমি একজন যোগ্য ব্যক্তি				
০২	আমি মনে করি আমার কতগুলি ভাল গুন আছে				
০৩	সামগ্রিক বিচারে আমার এরকম মনে হয় যে আমি ব্যর্থ				
০৪	বেশির ভাগ লোকের মত আমি সব কাজ করতে সক্ষম				
০৫	আমার মনে হয়, গর্ব করার মতো আমার বেশী কিছু নেই				
০৬	নিজের প্রতি আমর ইতিবাচক মনোভাব আছে				
০৭	সার্বিকভাবে, আমি নিজেকে নিয়ে সন্তুষ্ট				
০৮	আমার ইচ্ছে,আমি নিজের জন্য আরও সম্মান অর্জন করতে পারি				
০৯	মাঝে মাঝে আমার মনে হয় আমার কোন মূল্য নেই				
১০	মাঝে মাঝে আমার মনে হয় আমি মোটেই কোন কাজের নই				

ক্লেইগ হাসপাতাল পরিবেশগত বিষয়ের তালিকা

সংক্ষিপ্ত ফরম

সমাজের একজন সক্রিয় উৎপাদনক্ষম সদস্য হিসাবে বিভিন্ন বিষয়ে অংশগ্রহন করছেন, যেমন ঃ কাজ করা, স্কুলে যাওয়া, বাড়ীর প্রতি যত্নশীল হওয়া,এবং পরিবার ও বন্ধুদের সাথে সামাজিক,বিনোদন-মূলক ও সমাজে নাগরিক দায়িত্ব পালন। বেশ কিছু বিষয় এ সকল অংশগ্রহনে একজন ব্যক্তিকে সাহায্য করতে পারে উন্নয়ন ঘটাতে পারে, আবার কিছু বিষয় আছে যে গুলো অংশগ্রহনে সীমাবদ্ধতা অথবা বাধা সৃষ্টি করতে পারে।

প্রথমতঃ আমাকে বলুন নীচের কোন বিষয়গুলো আপনার বিভিন্ন কর্মকান্ডে অংশ গ্রহনে বাধা হয়ে দাড়ায়, যে গুলো আপনারই ব্যাপার। বিগত বছরের কথা ভাবুন, এবং বলুন নীচের তালিকার কোন কোন আইটেম (দফা/স্বতন্ত্র,দ্রব্য) আপনার "দৈনিক","সাপ্তহিক" "মাসিক" মাসের চেয়ে কম অথবা কখনও নয় সমস্যা হিসাবে দেখা দিয়েছিল কি না যদি আইটেম গুলো উদ্ভুত হয়ে থাকে তবে তা আপনার অংশগ্রহনে কি পরিমান বড় বাধা হয়ে দেখা দিয়েছিল।

(বিঃ দ্রঃ যদি কোন প্রশ্ন বিশেষভাবে স্কুল অথবা কাজ সংক্রান্ত হয়ে থাকে এবং আপনি স্কুলের বা কর্মক্ষেত্রের না হন তবে লিখুন- "প্রযোজ্য নহে")

		দৈনিক/প্রতিদিন	সাপ্তাহিক	মাসিক	মাসের চেয়ে কম	কখনও নয়	প্রযোজ্য নয়	বড় সমস্যা	ছোট সমস্যা
১	বিগত ১২ মাসে কতবার যানবাহন প্রাপ্তিতে আপনার সমস্যা হয়েছিল ? যখন সমস্যাটি হয়েছিল তা কি বড় সমস্যা ছিল না ছোট সমস্যা ?	○	○	○	○	○		○	○
২	বিগত ১২ মাসে কতবার প্রাকৃতিক পরিবেশে তাপমাত্রা,ভূখন্ড বিস্তৃতি ভূমি খন্ড, আবহাওয়া অপনার চাহিত বা প্রয়োজনীয় কাজকে কঠিন করেছে ? সমস্যাটি কি খুব বড় ছিল না কি ছোট ছিল ?	○	○	○	○	○		○	○
৩	বিগত ১২মাসে কতবার আপনার চারপাশে বিভিন্ন ,,দিক বজ্রপাত উচ্চশক,হট্টগোল,ইত্যাদি আপনার কাঙ্খিত বা প্রয়োজনীয় কাজটি কঠিন করে তুলেছিল ? যখন সমস্যাটি হয়েছিল তা কি বড় না ছোট সমস্যা ছিল ?	○	○	○	○	○		○	○
৪	বিগত ১২ মাসে কতবার কোন তথ্য আপনার প্রয়োজন ছিল বা চেয়েছিলেন কিন্তু সহজ লভ্য ছিল না ? যখন সমস্যা উদ্ভব হয়েছিল তা কি বড় না ছোট সমস্যা ছিল ?	○	○	○	○	○		○	○
৫	বিগত ১২ মাসে কতবার আপনার স্বাস্থ্যসেবা প্রাপ্তি বা চিকিৎসা প্রাপ্তি আপনার সমস্যা ছিল ? যখন সমস্যাটি ছিল তা কি খুব বড় না ছোট ?	○	○	○	○	○		○	○
৬	বিগত ১২ মাসে বাড়িতে আপনার কতবার অন্য কারো সাহায্যেপ্রয়োজন ছিল এবং সহজে তা পান নি? যখন সমস্যাটি ছিল তখন কি তা খুব বড় না ছোট সমস্যা ছিল ?	○	○	○	○	○		○	○

		দৈনিক/প্রতিদিন	সাপ্তাহিক	মাসিক	মাসের চেয়ে কম	কখনও নয়	প্রযোজ্য নয়	বড় সমস্যা	ছোট সমস্যা
৭	বিগত ১২ মাসে কতবার আপনার স্কুলে বা কর্মস্থলে অন্য কারো সাহায্য প্রয়োজন ছিল এবং তা সহজে পান নি ? যখন সমস্যাটি উদ্ভব হয়েছিল তা কি খুব বড় সমস্যা ছিল না ছোট ছিল ?	○	○	○	○	○	○	○	○
৮	বিগত ১২ মাসে বাড়ীতে কতবার আপনার লোকজনের দৃষ্টিভঙ্গি আপনার প্রতি সমস্যা ছিল ? যখন সমস্যাটি ছিল তখন তা বড় সমস্যা না কি ছোট সমস্যা ছিল ?	○	○	○	○	○		○	○
৯	বিগত ১২ মাসে কতবার স্কুলে বা কর্মস্থলে আপনার প্রতি লোকজনের দৃষ্টিভঙ্গি একটা সমস্যা ছিল ? যখন সমস্যাটি হয়েছিল তা কি বড় ছিল না ছোট ছিল ?	○	○	○	○	○	○	○	○
১০	বিগত ১২ মাসে আপনি কতবার অন্ধবিশ্বাস বা বৈষম্যের শিকার হয়েছেন? সমস্যাটি কি বড় ছিল না ছোট ছিল ?	○	○	○	○	○		○	○
১১	বিগত ১২ মাসে ব্যবসায়ের কৌশল সমুহ (পলিসি) এবং বিধিমালা এবং ব্যবসায়ী সংগঠন আপনার জন্য কোন সমস্যা হয়েছিল কি না? সমস্যাটি যখন উদ্ভব হয়েছিল তা কি বড় সমস্যা ছিল না কি ছোট সমস্যা ছিল ?	○	○	○	○	○		○	○
১২	বিগত ১২ মাসে কতবার সরকারী কর্মসূচী এবং নীতিমালা আপনার কাঙ্খিত বা প্রয়োজনীয় কাজটি কঠিন করে তুলেছিল? যখন সমস্যাটি হয়েছিল তা কি বড় ছিল না ছোট ছিল?	○	○	○	○	○		○	○

	অংশগ্রহনমূলক মাত্রা	সুনির্দিষ্ট নয়/জবাব নেই	হ্যাঁ	মাঝে মাঝে	না	অপ্রাসঙ্গিক, আমি বলতে চাই না, করতে চাই না।	সমস্যা নেই	অল্প	মাঝারী	গুরুতর	স্কোর
১	আপনার সমকক্ষদের যেভাবে কাজ খোঁজার/পাওয়ার সুযোগ আছে আপনারও সেভাবে আছে কি?		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	
২	আপনি কি আপনার সমকক্ষদের মতো কঠোর পরিশ্রম করেন? (একই রকম সময়/শ্রমঘন্টা কাজের ধরন ইত্যাদি)		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	
৩	আপনি কি পারিবারিক কাজে আপনার সমকক্ষদের মতো পরিবারে টাকা পয়সা দিয়ে সহযোগিতা করেন?		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	
৪	আপনি কি আপনার সমকক্ষদের মতো গ্রামের বাইরে বেড়াতে যান? (চিকিৎসা ছাড়া) উদাহরণস্বরুপ বাজার, মেলা, নিকটবর্তী গ্রামে।		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	
৫	আপনি কি বড় বড় উৎসবে এবং ধর্মীয় অনুষ্ঠানে যোগদান করেন, যেখানে সবাই যোগদান করেন? (উদাহরণ স্বরুপ বিবাহ, অন্ত্যেষ্টিক্রিয়া, ধর্মীয় অনুষ্ঠান)		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	
৬	আপনি কি আপনার সমকক্ষদের মতো পাড়ায় বিভিন্ন অনুষ্ঠানে ও সামাজিক কাজে আপনার যতটুকু সম্ভব অংশ গ্রহন করেন? (উদাহরণস্বরুপ খেলাধূলা, খোশগল্প করা, আলোচনা সভা)		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	
৭	আপনি কি আপনার সমকক্ষদের মতো সামাজিক কর্মকান্ডে সক্রিয়? (উদাহরণ স্বরুপ ধর্মীয় ও মহল্লার সামাজিক কাজে)		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	
৮	এলাকায় আপনার সমকক্ষদের মতো আপনিও কি একই রকম সম্মান পান?		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	
৯	আপনার কি সমকক্ষদের মতো নিজের যত্ন নেওয়ার সুযোগ আছে (উদাহরণ স্বরুপ চেহারা, পুষ্টি, স্বাস্থ্য ইত্যাদি)		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	

	অংশগ্রহনমূলক মাত্রা	সুনির্দিষ্ট নয়/জবাব নেই	হ্যাঁ	মাঝে মাঝে	না	অপ্রাসঙ্গিক, আমি বলতে চাই না, করতে চাই না।	সমস্যা নেই	অল্প	মাঝারী	গুরুতর	স্কোর
১০	আপনার কি সমকক্ষদের মতো জীবন সঙ্গীর সাথে দীর্ঘমেয়াদী সম্পর্ক শুরু/বজায় রাখার সুযোগ আছে?		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	
১১	আপনি কি অন্যদের মতো এলাকার লোকদের বাড়ীতে প্রায় বেড়াতে যান?		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	
১২	আপনি কি অন্যদের মতো বাড়ির ভিতরে, বাইরে এবং গ্রামের সবদিকে বা প্রতিবেশীদের বাড়িতে চলাফেরা করেন?		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	
১৩	আপনার গ্রামে বা এলাকায় যেখানে অনেক লোকের সমাগম সেখানে আপনি কি যান? (উদাহরণ স্বরুপ বিদ্যালয়, দোকান পাঠ, কার্যালয়, বাজার, চা/কফির দোকান)		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	
১৪	আপনি কি বাড়িতে পারিবারিক/গৃহস্থলী কাজ করেন?		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	
১৫	পারিবারিক আলোচনায় আপনার মতামাতের গুরুত্ব দেয় কি?		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	
১৬	আপনি কি অন্যদের সাহায্য করেন? (উদাহরণ স্বরুপ প্রতিবেশী, বন্ধু বান্ধব অথবা আত্মীয় স্বজন)		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	
১৭	অচেনা লোকদের সাথে দেখা হলে কথা বলতে আপনি কি স্বাচ্ছন্দ্য বোধ করেন?		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	
১৮	আপনি কি আত্মবিশ্বাসের সাথে নতুন কোন কিছু শিখতে চেষ্টা করেন?		0			0					
	এটি আপনার ক্ষেত্রে কত বড় সমস্যা?						1	2	3	5	