



Faculty of Medicine

University of Dhaka

Factors influencing the utilization of Physiotherapy Services among the caregiver of the Cerebral Palsy Children at Protibondhi Seba-O-Sahajjo kendra in Bangladesh

By

Md. Rafiqul Islam

Master of Science in Physiotherapy

Session: 2017-2018

Registration No: 2578

Roll No: 118



Department of Physiotherapy

Bangladesh Health Professions Institute (BHPI)

May 2019



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Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science in
Physiotherapy



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May 2019

We the undersigned certify that we have carefully read and recommended to the Faculty of Medicine, University of Dhaka, for acceptance of this thesis entitled, **“Factors influencing the utilization of Physiotherapy Services among the caregiver of the Cerebral Palsy Children at Protibondhi Seba-O-Sahajjo kendro in Bangladesh”** submitted by Md. Rafiqul Islam, for the partial fulfillment of the requirements for the degree of Master of Science in Physiotherapy.

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Supervisor's Statement

As supervisors of Md. Rafiqul Islam MSc Thesis work, I certify that I considered his thesis **“Factors influencing the utilization of physiotherapy services among the caregiver of children with cerebral palsy at Protibondhi Seba-O-Sahajjo Kendro in Bangladesh”** to be suitable for examination.

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Date:

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(Supervisor)

Declaration Form

- 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 Physiotherapy.
- 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.
- I confirm that the electronic copy is identical to the bound copy of the Thesis.
- In case of dissemination the finding of this project for future publication research supervisor will highly concern and it will be duly acknowledged as graduate thesis.

Signature:.....

Name:.....

Date:

Acknowledgement

First of all, I would like to pay my gratitude to almighty Allah who has given me the ability to complete this project in time with success. The second acknowledgement must go to my family members who have always inspired me for preparing the project properly.

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May God bless and reward abundantly all who contributed to this study.

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List of Abbreviations

CP	Cerebral palsy
USA	United states of America
BHPI	Bangladesh Health Profession Institute
CT	computed tomography
MRI	magnetic resonance imaging
EEG	Electroencephalogram
WHO	World Health Organization
CIMT	Constraint-Induced Movement Therapy
UNCRPD	United nation convention on the rights of persons with disabilities
PT	Physiotherapy
HIV	Human immune deficiency viruses
BMRC	Bangladesh Medical and Research Council
IRB	Institutional Review Board
PSOSK	Protibondhi seba-o-sahajjo kendro
AFO	Ankle- Foot –orthosis
KAFO	Knee-ankle Foot Orthosis
GM	Grand mother
GF	Grand father
ADL	Activities of daily living
DM	Diabetes mellitus
HT	Hypertension
SSC	Secondary school certificate
HSC	Higher secondary certificate
SD	Standard deviation
NGO	Non-government organization
OT	Occupational therapy
SLT	Speech and language therapy
df	Degree of freedom

Abstract

Introduction: Cerebral palsy is a non-progressive irreversible lesion either single or multiple areas of the immature brain due to a developmental abnormality of brain or injury of the brain during labor, at the time of birth or during delivery. The incidence of cerebral palsy all over the world is 3-4/1000 live births. The prevalence of cerebral palsy is 2.5% per one thousand live births. Children with cerebral palsy required rehabilitation care both at home and rehabilitation center, in this situation Mothers of children with cerebral palsy are usually the primary caregivers of their children, The study aims to find out the factors affecting adherence to physiotherapy appointment for caregivers of children with cerebral palsy in Bangladesh. **Methodology:** A cross-sectional study. **Sample size:** A total of 225 attendances with the cerebral palsy child, Data was collected from the 14 PSOSK at different district of the Bangladesh such as Rajbari, Jessore, Comilla, Sylhet, Khulna, Pabna, Magura, Pirgong, rangpur, Ghoraghat Dinajpur, Barguna, Rupsha Khulna, Nawgaon, Dinajpur and Jattarabari. **Sampling procedure:** convenience sampling techniques were used for this study. **Data collection tools:** Data were collected using a questionnaire consisting of closed structured question through face to face interviews. This data collection procedure was completed within one month. There were used Bengali questionnaires with simple wording because all the parents have understood better in Bengali. SPSS (version=23) software was used for statistical analysis of data and the significant level set at $p < 0.05$. **Result:** shows that Among the 225 CP child only 33.8% maintain adherence and 66.2% was non-adherence. The chi-square test in this study showed statistically significant association observed in different variables such as numbers of siblings, required doctors consultation of the CP children, parents level of education and their awareness level of the disease and therapy, mother health condition and also family members and having any savings have a significant association with adherence ($P < 0.005$). **Conclusion:** Adherence to the caregiver of the cerebral palsy child with physiotherapy appointment is out most important for better management. In this study, it is suggested that the quality of life of the CP child is significantly changed by physiotherapy as well as rehabilitation. The results will be useful in developing effective interventions aimed at enhancing the utilization of services and adherence to the treatment.

KEYWORDS: Cerebral palsy, Caregivers, Adherence, Non-adherence.

APPENDIXES

APPENDIX-A

Informed Consent Form

BHPI under Dhaka University

Code:

Date:...../...../.....

Name of the respondent.....

I am Md Rafiqul Islam, a student of M.Sc.PT program Bangladesh Health Professions Institute (BHPI) under medicine faculty of Dhaka University. As a course requirement I am doing a research on, “Factors influencing the utilization of physiotherapy services among the caregiver of children with cerebral palsy in the integrated disability service center (PSOSK).” of Bangladesh.

I am inviting you to participate in this research study.

I need some valuable information from you as a part of my academic purpose. Your co-operation will be highly appreciable. You can refuse to answer any questions or may leave any time you feel like. If your refuse or leave you will not face any problem.

All the information given by you will be kept confidential. Your identity will not be disclosed. Only study-related personnel will be allowed to see the information.

I would appreciate your co-operation. If you agree to join the study please sign at the space indicated below.

Investigator’s signature & Date

Volunteer’s signature & Date

Witness signature/Thumb impression & Date

CONSENT FORM (BENGALI)

Appendix-B

কোড :

তারিখ:

উত্তর দাতার নামঃ

আসসালামুআলাইকুম। আমি মোঃ রফিকুল ইসলাম বাংলাদেশ হেলথ প্রফেসস ইন্সটিটিউট যাহাঢাকা বিশ্ববিদ্যালয় অডিভিউ এমপিটিথ্রোথ্রামের ছাত্র। আমি একটি গবেষণা কর্ম করছি যার শিরোনাম হল “বাংলাদেশের প্রতিবন্ধী সেবা ও সাহায্য কেন্দ্রে ফিজিওথেরাপি সেবা গ্রহন করতে সেরিব্রাল পলসি বাচ্চার অভিভাবকদের কোন কোন উপাদান গুলো প্রভাবিত করে ” আমি আপনাকে এই গবেষণায় অংশগ্রহণের আমন্ত্রণ জানাচ্ছি। আপনার কাছ থেকে কিছু তথ্য জানতে চাই। আপনাকে উক্ত গবেষণা কর্মে কিছু প্রশ্নের উত্তর দিতে হবে যা এই ফর্মে উল্লেখ আছে। আমি আপনাকে জানাতে চাই যে এটি একটি সম্পূর্ণরূপে একাডেমিক গবেষণাকর্ম এবং আপনার প্রদত্ত তথ্য সমূহ অন্য কোন উদ্দেশ্যে ব্যবহৃত হবে না। আপনার নাম প্রকাশনায় গোপন থাকবে।

এই গবেষণা কর্মে আপনার অংশগ্রহণ ঐচ্ছিক এবং গবেষণাকর্মের যে কোন সময় এতে অংশ নেয়া থেকে বিরত থাকতে পারবেন। ইন্টারভিউ চলাকালীন কোন নির্দিষ্ট প্রশ্নের উত্তর না দিতে চাইলে প্রশ্নের উত্তর না দেওয়ার অধিকার আপনি সংরক্ষণ করেন।

আমি আপনার সহযোগিতায় কৃতজ্ঞ হব। আপনি যদি গবেষণায় যোগ দিতে সম্মত হন, তবে নির্দিষ্ট স্থানে স্বাক্ষর করুন।

তথ্য গ্রহণকারীর স্বাক্ষর ও তারিখঃ.....

গবেষণায় অংশগ্রহণকারীর স্বাক্ষর ও তারিখঃ.....

গবেষকের স্বাক্ষর ও তারিখঃ.....

Date: 17.11.2018

The Chairman

Institute Review Board (IRB)

Bangladesh Health Professions Institute (BHPI)

CRP, Chapain, Savar, Dhaka-1343, Bangladesh

Subject: Application for review and ethical approval of thesis

Dear Sir,

With due respect, I am Md Rafiqul Islam, student of Part-II, M.Sc in Physiotherapy at the Bangladesh Health Professions Institute (BHPI), academic institute of Centre for the Rehabilitation of the Paralyzed (CRP) under the medicine faculty of University of Dhaka, as per the course curriculum, I have to conduct a thesis entitled "Factors influencing the utilization of physiotherapy service among the caregiver of cerebral palsy children in the integrated disability service center of Bangladesh", under the honorable supervisor Associate Prof. Firoz Ahmed Mamin. The purpose of the study is to identify the factors influencing the Utilization of physiotherapy Service among Children with Cerebral Palsy. The study involves use of semi-structure questionnaire to measure socio-demography to assess the factors influencing the Utilization of physiotherapy Service among Children with Cerebral Palsy in Integrated Disability Service Centers of Bangladesh that may take 20 to 35 minutes to fill in the questionnaire. There is no likelihood of any harm to the participants and / or participation in the study may benefit the participants or other stakeholders. Related information will be collected from the patient's guide books. Data collectors will receive informed consent from all participants; any data collected will be kept confidential.

Therefore, I look forward to having your kind approval for the thesis proposal and to start data collection. I can also assure you that I will maintain all the requirements for study.

Sincerely,

Md Rafiqul Islam



Part-II, Roll no-01, 4th batch, session-2017-2018

Student of M.Sc in Physiotherapy (MSc.PT)

BHPI, CRP, Savar, Dhaka-1343, Bangladesh.

Recommendation from the thesis supervisor



Firoz Ahmed Mamin

Associate Professor of Physiotherapy,

Bangladesh Health Professions Institute (BHPI).

Attachments: Thesis Proposal, Questionnaire and Information sheet & consent form.

Permission letter for data collection Appendix-D

Date:

To

The Disability affair Officer/Consultant (Physiotherapy)

PSOSK, JPUF

Subject: Application for permission of Data collection for M Sc. PT thesis work

Dear Sir

I am an employee of your organization. I am also Masters of Physiotherapy student in Bangladesh health profession institute (BHPI) Dhaka University. I need data collection from care givers of cerebral palsy children in your center for M SC PT thesis. My thesis title is “Factors influencing the utilization of physiotherapy services among the caregivers of the CP children at PSOSK in Bangladesh .So I want to collect data from your center if you will permit me. My thesis aim is-

To find out the factors affecting adherence to physiotherapy services among the caregiver of Cerebral Palsy children in Bangladesh

Therefore, I hope that you would be granted me and oblige thereby.

You're obediently, Name & Signature of the officer

Signature:

Md. Rafiqul Islam

Name:

Consultant (physiotherapy), Designation: DAO/Consultant (Physiotherapy)

PSOSK, Rajbari.

Protibondhi Seba-O-Sahajjo-kendro.....,

Questionnaire (Bengali)APPENDIX-E

সাধারণ প্রশ্নাবলী

স্টাডি আইডি: তারিখ:.....

সামাজিক জনসংখ্যা তথ্য

অধ্যায় ৪ ক. রোগীর পরীচিতি-

১)বয়সঃ	মাস	২) লিঙ্গঃ	১. ছেলে	২. মেয়ে
৩) বাচ্চার সংখ্যাঃ		৪) সিপি বাচ্চাঙ্কুলে যায়ঃ	১. হ্যাঁ	২. না
৫) সিপির ধরন :	১.Monoplegic, 2.Diplegic, 3.Quadriplegic, 4.Paraplegic,			
৬)অন্যপ্রতিবন্ধীতা :	১. নাই ২.শ্রবণ ৩. দৃষ্টি ৪. বাক ৫. বুদ্ধি ৬.....			
৭) অন্য অসুখ :	১. নাই ,২. নিউমোনিয়া, ৩. এ্যাজমা, ৪. হৃদ রোগ, ৫. কিডনীর রোগ, ৬.....			

৮) সিপি বাচ্চার অন্যের উপর নির্ভরশীলকি ?

১. হ্যাঁ

২. না

৯)সিপি বাচ্চা কোন সহায়ক উপকরন ব্যবহার করে কি?

১. হ্যাঁ

২. না

১০) উত্তর হ্যাঁ হলে, কি ব্যবহার করে-

১. হুইল চেয়ার,২. ক্র্যাচ, ৩. ওয়াকার, ৪. এএফও/কেএফও ৫. অন্যান্য

১১)নিয়মিত ডাক্তারের পরামর্শ গ্রহণ করছেন কি?

১. হ্যাঁ

২. না

১২)হ্যাঁ হলে,কোন বিষয়ের বিশেষজ্ঞের পরামর্শ নিচ্ছেন-

১. নিউরোলজিস্ট ২. অর্থোপেডিক ৩.মেডিসিন ৪.পেডিয়াট্রিক ৫. অন্যান্য

১৩)পূর্বে কোথাও ফিজিওথেরাপি নিয়েছেন কি?

১. হ্যাঁ

২. না

১৪)প্রতিবন্ধী সেবা ও সাহায্য কেন্দ্র ছাড়া অন্য কোথাও ফিজিওথেরাপি নিচ্ছেন কি? ১হ্যাঁ ২.না

১৫)বর্তমানে কোন ঔষধ খায় কি?

১. হ্যাঁ

২. হ্যাঁ

১৬)সিপি বাচ্চা ব্যাতিত পরিবারের অন্যান্য বাচ্চার পরিচিতি :-

	বয়স : (মাস)	লিঙ্গ :	স্কুলে যায় :	অসুস্থতা :	ঔষধখায়
১৬.১		১. ছেলে, ২. মেয়ে	১.হ্যাঁ/ ২.না	১.হ্যাঁ/ ২.না	১.হ্যাঁ/ ২.না
১৬.২		১. ছেলে, ২. মেয়ে	১.হ্যাঁ/ ২.না	১.হ্যাঁ/ ২.না	১.হ্যাঁ/ ২.না
১৬.৩		১. ছেলে, ২. মেয়ে	১.হ্যাঁ/ ২.না	১.হ্যাঁ/ ২.না	১.হ্যাঁ/ ২.না

Treatment adherence সম্পর্কিত তথ্য-

Pres.se	Rec. session	%of. Rec. session	17)Mode		18)Mode of rec. Rx	
			Ad, >70%	Non ad, <70%	Regular	Irregular

অধ্যায় : খ. পরিবারের তথ্য -

১৯)পরিবারের ধরণ : ১. যৌথ পরিবার ২. একক পরিবার

২০)পরিবারের সদস্য সংখ্যা (লিখুন) : পুরুষ- জন, মহিলা- জন,

সর্বমোট : জন।

২১)পরিবারের উপার্জনক্ষম সদস্য সংখ্যা : জন।

২২) পিতার বয়স : ২৩) শিক্ষা : ২৪) পেশা :

২৫)মাসিক আয় : ২৬)অসুস্থতা :

২৭) মাতার বয়স : ২৮) শিক্ষা : ২৯)পেশা :

৩০)মাসিক আয় (যদি থাকে) : ৩১)অসুস্থতা :

৩২)মাতা যদি গৃহিণী হয়, সে অন্য কোন কাজের সাথে সম্পৃক্ত কি? ১. হ্যাঁ ২. না

৩৩)সম্পৃক্ত থাকলে কত সময় ব্যয় করেন (লিখুন) : মিনিট

৩৪) অন্য কাজের সাথে সম্পৃক্ত থাকলে, মাতার মাসিক আয় : টাকা

৩৫)মাতার বর্তমান পারিবারিক অবস্থা : ১. চলমান ২. তালাকপ্রাপ্ত ৩ .বিধবা.

৩৬)প্রধান তত্ত্বাবধায়নকারি- ১.মাতা ২.পিতা ৩.বোন ৪. দাদী৫. .্ৰ....

প্রধান তত্ত্বাবধায়নকারি পিতা-মাতা ব্যতিত যদি অন্য কেহ হয়, সেক্ষেত্রে-

৩৭)প্রধানতত্ত্বাবধায়নকারির বয়সঃ ৩৮) বাচ্চর সাথে সম্পর্কঃ৩৯) শিক্ষাগত যোগ্যতা :

৪০)পেশা :

৪১)বৈবাহিক অবস্থা : ১.বিবাহিত ২. অবিবাহিত ৪২)অসুস্থতা :

৪৩)যদি প্রধান তত্ত্বাবধায়নকারি মাতা ব্যতিত অন্য কেহ এবং গৃহিনী হয়, সে অন্য কোন কাজের সাথে

সম্পৃক্ত কি? ১. হ্যাঁ ২. না

৪৪)যদি উত্তর হ্যাঁ, হয় তাহলে কত সময় সম্পৃক্ত থাকেন- মিনিট

৪৫) তত্ত্বাবধায়নকারী প্রতিদিন কত সময় বাচ্চর খেরাপির জন্য ব্যয় করেন- মিনিট

৪৬)তত্ত্বাবধায়নকারীর ফিজিওথেরাপি সম্পর্কে ধারণা কেমন-

১. খুব ভাল ২. ভাল ৩. মোটামুটি ৪. কোন ধারণা নেই

অধ্যায় : গ. বাসস্থান ও যোগাযোগ ব্যবস্থা সম্পর্কিত তথ্য -

৪৭) আবাসস্থলের অবস্থান- ১.গ্রাম ২.উপজেলা শহর ৩. জেলা শহর

৪৮) আবাসস্থলের ধরন - ১. পাকাবাড়ি ২. টিনের তৈরি ৩. আধাপাকা

৪. মাটি ও খড়ের তৈরি ৫. মাটি ও টিনের তৈরী ৬. অন্যান্য

৪৯) গৃহে প্রবেশের জন্য সিড়ি ব্যবহারের প্রয়োজন হয় কি? ১. হ্যাঁ ২. না

৫০) উত্তর হ্যাঁ হলে, কয়টি সিড়ি ব্যবহার করতে হয়- টি

৫১) আবাসস্থলে হুইলচেয়ারে চলাচলের সুব্যবস্থা আছে কি? ১. হ্যাঁ ২. না

৫২) আবাসস্থল থেকে খেরাপি সেন্টারের দুরত্ব : কিঃ মিঃ।

৫৩) আবাসস্থল হতে ফিজিওথেরাপি সেন্টার পৌঁছাতে কত সময়ের প্রয়োজন হয় : মিনিট

৫৪) আবাসস্থল হতে থেরাপি সেন্টারে যেতে - আসতে কত টাকা খরচ হয়(লিখুন) - /=

৫৫) যোগাযোগের রাস্তা কী দ্বারা তৈরি? ১. পিচেররাস্তা ২. ইটের সোলিং ৩. কাঁচা রাস্তা

৫৬) যোগাযোগের মাধ্যম কি? ১. বাস+অটোরিক্সা ২. বাস+মাহিন্দ্র ৩. বাস+রিক্সা ৪. অটোরিক্সা

৫. বাস ৬. রিক্সা/ভ্যান ৭. মাহিন্দ্র ৮.....

৫৭) থেরাপি সেন্টারে যেতে নদী পার হতে হয় কি? ১. হ্যাঁ ২. না

৫৮) উত্তর হ্যাঁ, নদী পারাপারের জন্য কি ব্যবহার করেন- ১. নৌকা, ২. লঞ্চ, ৩. স্টিমার ৪. স্পিড বোর্ড

৫৯) থেরাপি সেন্টারে যেতে বাসের সাঁকো/কাঠের ব্রিজ ব্যবহার করতে হয় কি? ১. হ্যাঁ ২. না

৬০) থেরাপি সেন্টারে আসতে যানবাহন পরিবর্তন করতে হয় কি? ১. হ্যাঁ ২. না

৬১) উত্তর হ্যাঁ, হলে কতবার নির্দিষ্ট করুন-

৬২) প্রতিবন্ধী বাচ্চা কে যানবাহনে উঠানামা করাতে কোন সমস্যার সম্মুখীন হয় কি? ১. হ্যাঁ ২. না

৬৩) উত্তর হ্যাঁ, হলে নির্দিষ্ট করুন-

অধ্যায় : ঘ. অর্থনৈতিক সম্পর্কিত তথ্য -

৬৪) পরিবারের মোট মাসিক আয় কত টাকা? (হাজারে)- টাকা

৬৫) পরিবারের মোট মাসিক ব্যয় কত টাকা? (হাজারে)- টাকা

৬৬) সিপি বাচ্চার চিকিৎসা (ঔষধ) বাবদ মাসিক আনুমানিক ব্যয় : টাকা

৬৭) সিপি বাচ্চার ফিজিওথেরাপি চিকিৎসা বাবদ মাসিক আনুমানিক ব্যয় : টাকা

৬৮) সিপি বাচ্চা প্রতিবন্ধী ভাতা পায় কি? ১. হ্যাঁ ২. না

৬৯) ভাতা পেলে তা কি কাজে ব্যয় হয়? ১. ঔষধ ক্রয় ২. খাবার ক্রয় ৩. থেরাপির জন্য ৪. অন্যান্য

অধ্যায় : ঙ. সামাজিক এবং সাংস্কৃতিক তথ্য-

৭০) প্রতিবন্ধী বাচ্চার প্রতি বাবার মনোভাব কেমন- ১. দৃঢ় ইতিবাচক ২. ইতিবাচক ৩. দৃঢ় নেতিবাচক

৪. নেতিবাচক

৭১) প্রতিবন্ধী বাচ্চার প্রতি প্রতিবেশির মনোভাব কেমন - ১. দৃঢ় ইতিবাচক ২. ইতিবাচক ৩. দৃঢ় নেতিবাচক

৪. নেতিবাচক

৭২) প্রতিবন্ধী বাচ্চার দেখাশুনার জন্য পরিবারের অন্য সদস্যরা সহযোগিতা করে কি? (যৌথ পরিবার

হলে)- ১. হ্যাঁ ২. না

৭৩) পরিবারের অন্য বাচ্চারা প্রতিবন্ধী বাচ্চার সাথে মেলামেশা এবং খেলাধুলা করে কি?

১. হ্যাঁ ২. না

৭৪) আপনার বাচ্চাকে নিয়মিত ফিজিওথেরাপি চিকিৎসা করাতে পরিবারের কেউ বাধা প্রদান করে কি?

১. হ্যাঁ ২. না

৭৫) উত্তর হ্যাঁ হলে, কে বাঁধা প্রদান করে-

অধ্যায় ৪ চ. প্রতিষ্ঠানের সেবা সম্পর্কিত তথ্য -

৭৬) সিপি বাচ্চাদের এই সেন্টারে ফিজিওথেরাপি চিকিৎসা প্রদান করা হয় তা আপনি কি ভাবে জানতে

পেরেছিলেন? ১. প্রচার-প্রচারণা ২. পুরাতন রোগী ৩. অন্য ডাক্তার ৪. এনজিও ৫. অন্যান্য

৭৭) রিসিপিশনে আপনাকে কোন রকম সমস্যার সম্মুখীন হতে হয়েছে কি? ১. হ্যাঁ ২. না

৭৮) উত্তর হ্যাঁ হলে, কি সমস্যার সম্মুখীন হতে হয়েছিল?-

৭৯) চিকিৎসা গ্রহন করতে কত সময় অপেক্ষা করতে হয় (লিখুন)-

মিনিট

৮০) চিকিৎসা গ্রহনকালীন সময়ে আপনার বাচ্চার কোন রকম সমস্যা হয়েছিল কি?-

১. হ্যাঁ ২. না

৮১) উত্তর হ্যাঁ হলে, কি সমস্যা হয়েছিল?-

৮২) এই সেন্টারে ফিজিওথেরাপি চিকিৎসা গ্রহন করতে কোন টাকা-পয়সা খরচ হয়েছিল কি? -

১. হ্যাঁ ২. না

৮৩) এই প্রতিষ্ঠানে আপনার বাচ্চাকে নিয়মিত ফিজিওথেরাপি সেবা প্রদান করা হয় কি?

১. হ্যাঁ ২. না

৮৪) ফিজিওথেরাপিষ্টে আপনার সাথে সৌহার্দ্য পূর্ণ আচরণ করেছিল কি?

১. হ্যাঁ২. না

৮৫) ফিজিওথেরাপিষ্টে আপনার বাচ্চাকে যত্নসহকারে ফিজিওথেরাপি চিকিৎসা প্রদান করেছিল কি? -

১. হ্যাঁ২. না

৮৬) থেরাপি ইউনিটের সহকারী আপনার বাচ্চাকে চিকিৎসা গ্রহণে সহায়তা প্রদান করে কি?

১. হ্যাঁ২. না

৮৭) এই সেন্টারে আপনার বাচ্চাকে সর্বোচ্চ কত সময় যাবৎ ফিজিওথেরাপি সেবা প্রদান করে? (লিখুন)-

মিনিট

৮৮) এই সেন্টারে আপনার বাচ্চাকে কি কি থেরাপি সেবা প্রদান করা হইয়েছে?

১.ফিজিওথেরাপি২. অকুপেশনালথেরাপি৩. স্পীচ অ্যান্ড ল্যাঙ্গুয়েজ থেরাপি৪.কাউন্সেলিং৫.....

৮৯) এই প্রতিষ্ঠানে ফিজিওথেরাপি চিকিৎসা গ্রহণের পরে আপনার বাচ্চার অবস্থার কোন পরিবর্তন হয়েছে কি?

১. হ্যাঁ

২. না

৯০) উত্তর হ্যাঁ হলে, কেমন পরিবর্তন- ১. খুব ভাল ২.ভাল ৩. মোটামুটি ৪.ভাল না

গবেষণায় সহযোগিতা করার জন্য আপনাকে অসংখ্য ধন্যবাদ

Questionnaire(English)Appendix-F

Socio-demographic information

Chapter: 01 Patient's information:

1. Age:Months	2. Sex: 1. Male 2. Female
3.Num.ofChild		4. Schooling of CP child: 1. Yes 2. No
5. Type of CP	1.Monoplegic, 2. Diplegic/Hemiplegic, 3. Quadriplegic 4. Paraplegic,	
6. Other disability	1. Nil, 2. Hearing,3. Vision, 4. Spech, 5. Inteectual, 6 ----	
7.Other disease	1. Nil 2. Pneumonia 3. Asthma 4. Heart disease 5. kidney disease 6. -----	

8. Is the CP child dependent on others?. 1. Yes 2. No

9.Does CP child use any assistive device? 1. Yes 2. No

10.If answer yes, what type of assistive device is used?

1. Wheel chair 2. walker 3. AFO/KAFO 4. crutch 5. others

11. Have you taken regular consultation for your child with the doctor?

1. Yes 2. No

12. If the answer is yes, what kind of specialist doctor has taken advice?

1. Neurologist 2. Orthopedic 3. Medicine 4. Pedriatric 5.....

13. Have you taken any physiotherapy service somewhere?

1. Yes 2. No

14. Are you taking physiotherapy service somewhere besides the disable services and help centers? 1. Yes 2. No

15. Is your child currently taking any medication? ? 1. Yes 2. No

Introduction of other children without the patient-(If any)

16. Age(months):17. Sex: 1.Male 2. Female

18. Schooling: 1. Yes 2. No 19. Illness:

20. Take any medicine: 1 Yes 2. No

Treatment adherence information-

Pres. session	Rec. session	% of adherence	21. Mode		22. Mode of rec. Rx	
			Adherence	Non adherence	Regular	Irregular

Chapter02: Family information:-

23. Family type: 1. Joint family 2. Single family

24. Family member: Male- Female- Total=

25. Earning family member:

Parents information-

26. Age of the father: 27. Education:

28. Occupation: 29. Monthly in come

30. Illness:

31. Age of the mother: 32. Education:

33. Occupation: 34. Monthly in come(if any)-

35. Illness:

36. Mother is a housewife, but is involved in other work? 1. Yes 2. No

37. If Mother is involved in other work, how much time is spent?

38. If Mother is involved in other work, how much the monthly income?

39. Mother's family status- 1. Relation continued 2. Divorced 3. widow

If principal caregiver is anyone other than parents, then-

40. Age:

41. Relation with child:

42. Education:

43. Occupation:

44. Marital status:

45. Illness:

46. If principal caregiver is other than mother and housewife, is she involved in any other work? 1. Yes 2. No

47. If the answer is yes, how much time is involved?

48. Principle caregiver how much time spend for the physiotherapy of the baby?
.....min.

49. What is the learning of principle caregiver about the physiotherapy?

1. Very good 2. Good 3. Minimal learning 4. No learning

Chapter 03:- House and communication related information:-

50. Location of residence- 1. Village 2. Upazilla 3. Distric city

51. House type- 1. Brick made 2. Tin made 3. Brick & Tin
4. Soil and Straw 5. Soil and Tin 6.

52. Do you need to use the stairs to enter the house?

1. Yes 2. No

53. If answer yes, how many stairs to use?

54. Is there a wheelchair access to the residence? 1. Yes 2. No

55. What is the distance of the physiotherapy center from the home?
.....km.

56. How much time is required to reach from home to therapy center?

..... min.

57. How much does it cost to go to the physiotherapy center from home?

58. What is the communication road made by?-

1. Pitch cast 2. Brick 3. Soil road

59. Main transport system: 1. Buss 2. Mahindra 3. Rickshaw 4. Easy bike

60. Do you have to cross the river to come to the therapy center from the home?

1. Yes 2. No

61. What do you use for crossing the river?

1. Boat 2. Launch 3. Steamer 4. Speed boat

62. Do you have to cross Bamboo Bridge to come to the therapy center from the home?

1. Yes 2. No

63. Do you have to change the vehicle to come to the physiotherapy center?

1. Yes 2. No

64. If answer yes, How many times?-

65. Is there a problem with the child carrying the vehicle? 1. Yes 2. No

66. If answer yes, what problem are you facing?-

Chapter 04:- Economic Factors:-

67. Have any savings of the family- 1. Yes 2. No

68. What is the monthly income of the family? - Tk.

69. How much is the total monthly expenditure of the family?Tk

70. How much is the estimated monthly cost of purchasing medicine for CP child?
.....Tk.

71. What is the estimated monthly expenditure of CP child's physiotherapy treatment?
.....Tk.

72. Does CP child get disability allowance? 1. Yes 2. No

73. If answer yes, how this allowance to spend? For-

1. Medicine 2. Food 3. Physiotherapy 4.

Chapter 05: Social and cultural factors:-

74. How does the attitude of father of the disabled child?

1. Strongly positive 2. Positive 3. Neutral 4. Strongly negative 5. Negative

75. How is the neighborhood view of a disabled child?

1. Strongly positive 2. Positive 3. Neutral 4. Strongly negative 5. Negative

76. Do the other members of the family help you to take care of disabled child? (For joint family)-

1. Yes 2. No

77. Do the other children in the family meet and play with CP children?

1. Yes 2. No

78. Does any member of the family interrupt your child's regular physiotherapy treatment?

1. Yes 2. No

79. If answer yes, who interrupts-

Chapter 06: Institutional factors:-

80. How did you know that your CP child physiotherapy is done in this center? 1.

- Publicity 2. Old patients 3. Doctors 4. NGO 5.

81. Did you face any embarrassing situation in the reception?

1. Yes 2. No.

82. If the answer is yes, what was the embarrassing situation ?

83. How long do you have to wait in reception for treatment?

.....min.

84. Did your child have any problems during the treatment? 1. Yes 2. No.

85. If the answer is yes, what was the problem?-

86. Did you have to spend any money to receive treatment at this center?

1. Yes 2. No.

87. Is this institution providing regular physiotherapy services to your child?

1. Yes 2. No.

88. Did the physiotherapist treat you well? 1. Yes 2. No.

89. Did physiotherapist provide physiotherapy care to your child carefully?

1. Yes 2. No.

90. Does physiotherapy assistant assist your child during treatment?

1. Yes 2. No.

91. How much time physiotherapy is given to your child at this center?

.....min.

92. What therapy was given to your child in this organization?

1. Physiotherapy 2. Occupational therapy 3. Speech & Language therapy 4.
Counseling 5.....

93. Did your child's condition change due to the treatment of physiotherapy in this institute?

1. Yes 2. No.

94. If answer is Yes, how much change the condition?

1. Very good 2. Good 3. Fairly well 4. Not good.

1.1 Background:

Cerebral palsy is the devastating condition that is responsible for most of the physical disability of child; “cerebral” refers to brain and “palsy” means abnormal tone or weakness of the muscle (Palsy, 2001). Cerebral palsy is a non-progressive irreversible lesion either single or multiple areas of the immature brain due to a developmental abnormality of brain or injury of the brain during labor, at the time of birth or during delivery (Cada & O’Shea, 2008). It is the most commonly occurring neurodevelopment disorder beginning in the early stage of the neonatal period and persists for while lifelong; besides this, some associated factors are responsible for cerebral palsy. (Sharma & Sinha, 2016). Cerebral palsy is a non-progressive permanent lesion of the immature brain. During childhood various types of motor disease are affected, one of them cerebral palsy is more common thus pretentious the central nervous system supplemented by alteration of sensation, perception, communication, cognition, epilepsy and musculoskeletal disorders (Hwang et al., 2011). Cerebral palsy Children always born with a variety of problems, so they need different healthcare providers for their rehabilitation. Due to the complex presentation of the cerebral palsy different healthcare providers such as physiotherapists, occupational therapists, speech and language therapists and also other rehabilitation team members always facing challenged to utilize the best available and effective treatment approach for the better functional outcome for these disabled children (Biwott, 2014). Different varieties of cerebral palsy are available and their rehabilitation depends on their clinical presentation.

1.2. Incidence and prevalence:

The incidence of cerebral palsy all over the world is 3-4/1000 live births and it is the most common cause of the disability most of the child of their childhood in India. (Rosario et al, 2016). The prevalence of CP is much higher in preterm infants than in full terms infants (Vincer, Allen, Joseph, Stinson, Scott, & Wood, 2006). Worldwide, the prevalence of cerebral palsy is 2.5% per one thousand live births (Tollanes, Wilcox, Lie, & Moster, 2014). Cerebral palsy is 5 to 10 times more common in under developing the territory of the world (Cruz, Jenkins, & Silberberg, 2006).

Bangladesh is the developing country and the prevalence of Cerebral palsy in Bangladesh was 3.7 per thousand of the child in a live birth (Murthy, Mactaggart, Mohammad, Islam, Noe, Khan, & Foster, 2014). Another study conducted on the prevalence of childhood disabilities and cerebral palsy in the community and recommended that the prevalence of cerebral palsy in Bangladesh was 6.1/1000 in a live birth (Tabib, 2009). The global natural prevalence of Cerebral Palsy is around 2 per 1000 live births (Oskoui, Coutinho, Dykeman, Jetté, & Pringsheim, 2013). The World population-based studies estimated that the prevalence of cerebral palsy in different countries ranging from 1.5 to more than 4/1000 of live births (Arneson, Durkin, Benedict, Kirby, Yeargin-Allsopp, Braun, & Doernberg, 2009). Another population-based study conducted in the USA in 2002, estimated that the prevalence of spastic cerebral palsy in 1.76/1000 live births and each year in Australia nearly 600-700 infants being born with cerebral palsy (Economics, 2008). This prevalence in Denmark was 1.95 per thousands of live births (Streja, et al 2015). The prevalence of cerebral palsy in Iceland was between 2.2-2.3/1000 live births and it remained constant from 1990-2003 (Sigurdardottir, Thorkelsson, Halldorsdottir, Thorarensen, & Vik, 2009). The National Survey of Children Health (2012-2013) and National Health Interview Survey (2011-2013) estimated that the prevalence of CP among children (age range 2-17) per thousand of live births was 2.6 and 2.9 accordingly (Peterson, Kamdar, & Hurvitz, 2019). The prevalence of disability due to cerebral palsy in a population of children ages 2-9 years from both urban and rural populations was estimated to be 70/1,000 for all grades of severity and 22/1,000 for serious disability in Bangladesh (Mubarak et al, 2000).

1.3 Classification of cerebral palsy:

According to the involvement of the central nervous system and muscle tone Evans classified the cerebral palsy into the four categories such as 1) hypotonic, 2) hypertonic, 3) dyskinetic and also 4) ataxia. The hypertonic varieties manifested with stiffness, spasticity, and rigidity. This classification also supported and expanded by the Swedish classification system, in this classification system categorized the disorder into three different groups: spastic, ataxic and dyskinetic and also subcategorized into hemiplegic, tetraplegic, or diplegic (Morris, 2007). On the basis of the motor dysfunction cerebral Palsy is distinguished into five groups: a) Spastic,

subgroup into hemiparesis (monoparesis), diplegic, quadriplegia (double hemiplegia), b) Dyskinetic, including sub-groups- athetoid, dystonic, chorea, ballismus, tremor, c) rigid, d) ataxia and e) mixed (Pervin et al, 2013).

Cerebral palsy can also be classified according to the anatomical site of the body parts and topographic spreading of motor involvement thus includes monoplegia, diplegia, hemiplegia, triplegia, Quadriplegia, and double hemiplegia (Jan 2006). Most of the studies show that diplegia is the most commonly occurring form of cerebral palsy which is prevalent from 30%-40%; however, the diplegic refers to the complete involvement of the lower extremities in primarily although the upper extremities involvement is incomplete (Dammann, 2018). 20% to 30% of cerebral palsy is hemiplegia, it is considered by the involvement of the parts of one side of the body; typically upper limb is more affected than the lower limb because of the bigger cortical representation of the hand and arm compared to a smaller leg area (Singhi,Ray, &Suri, 2002). Monoplegia cerebral palsy represent with involvement of the single limb, this condition is only observed in case of very mild hemiplegic CP (Sankar, &Mundkur, 2005). And when all four limbs are involved the appropriate term used as quadriplegia, this is the most devastating type of condition and almost 25% of this condition required total rehabilitative care (Shevell&Bodensteiner, 2004). When both arms are more affected than legs with unequal involvement then it refers as double hemiplegia, another type of cerebral palsy is triplegia, it is rarer and very difficult to explain clinically from double hemiplegia or milder asymmetric diplegia, also Triplegic CP manifested as like the milder and very asymmetric double hemiplegia and milder asymmetric diplegia (Matthews, & Wilson, 1999). Path-physiologically cerebral palsy is classified into two types: Spastic or pyramidal and non-spastic or extrapyramidal. According to the severity of the motor deficit, cerebral palsy can be classified as mild, moderate and severe.

1.4 Etiology:

The exact cause of the cerebral palsy is yet unknown but there may be some prominent predisposing factors thus have been identified as the major risk factors for developed cerebral palsy (Abdullahi, Satti, Rayis, Imam, & Adam, 2013). Cerebral palsy can be developed due to any phenomena that upset the fetal and neonatal growing brain such as congenital malformation, growth retardation of the fetal,

multiple pregnancies, maternal infections during fetal and neonatal growth, preterm delivery and birth asphyxia, maternal uncontrolled hypothyroidism, perinatal stroke and thrombophilia (Hankins Speer, 2003).

Male children are prone to develop cerebral palsy than female children at all gestational ages (Wu, Croen, Torres, Van De Water, Grether, & Hsu, 2009). Comparatively black ethnic infants have an increased risk of cerebral palsy than white infants; however black infants were 29% more likely to have the chance of developing cerebral palsy than infants (Wu, Xing, Fuentes-Afflick, Danielson, Smith, & Gilbert, 2011). The leading cause of cerebral palsy is the premature delivery before 28 weeks of pregnancy (O'shea, et al, 2009). About 15% of preterm neonates who had born in between 24 to 27 weeks of gestation period may develop CP (Himpens, Van den Broeck, Oostra, Calders, and Vanhaesebrouck, 2008). The prevalence of cerebral palsy among the child who was born before 28 weeks of gestation was 8.2 and this prevalence was reduced to 1.4 live births who born at 36 weeks of gestation (Hirvonen et al., 2014).

Multifactor causes are responsible for cerebral palsy and the causal pathway is also multiple and complex. About fifty percent of the cases there was no apparent underlying case but some etiological factors or risk factors are responsible for CP occurrence, these risk factors can be classified into three categories depending on the timing on the offense such as prenatal, perinatal and postnatal (Taft, 1995). In prenatally 70%-80% of the cerebral palsy is the direct consequence of acquired unknown cases; congenital cerebral palsy is arisen due to asphyxia like birth complication, delayed crying, a child with low birth weight and maternal any complication during pregnancy as like maternal diabetes and hypertension (Obaidul, Ehsanur, & Mohammad, 2018). A study showed that low birth weight was also strongly associated with cerebral palsy. A total of 9% of the children with a birth weight of less than 1000 g means low birth weights were diagnosed with cerebral palsy. Birth asphyxia was still strongly interrelated with cerebral palsy and birth weight (Kari, Else-Karin, & Anne, 2010). Neonatal jaundice in children born at term is associated with disorders of psychological development (Rikke, Bodil, Michael, Bjarne, & Jorn, 2010). Nearly 6% of congenital cerebral palsy occurs due to birth complications like asphyxia (Taylor, 2001). In post-natally nearly about 10% to 20% of cerebral palsy is developed, due to brain damage from bacterial meningitis, viral encephalitis, hyperbilirubinemia, motor vehicle collisions, falls, or child abuse

(Taylor, 2001). Abnormalities in the cerebrum and ischemic encephalopathy due to hypoxia are two significant risk factors thus related to Cerebral Palsy, premature delivery and low birth weight baby(<2500gm) also very prone to developed cerebral palsy in an infant (Handryastuti, et al., 2018). A recent study suggested that post-term pregnancy at 42 weeks or above also the risk factors for developing CP (Moster, Wilcox, Vollset, Markestad, & Lie, 2010).

1.5 Clinical manifestation of cerebral palsy:

Children with cerebral palsy manifested the signs symptoms related to the motor deficit and neurodevelopmental delay. Speaking straightforwardly, the neuromuscular manifestations in spastic cerebral palsy are constant and persistent otherwise manifestations of extrapyramidal CP are always variable. (Pakula, Braun, & Yeargin-Allsopp, 2009). It is out most important to consequence in between non-progressive/static and progressive manifestation of the cerebral palsy. Basically, in metabolic and neurodegenerative disorders, there is a loss of previously acquired milestones or slowing down the progression of all aspects of the development. However, in the earlier onset and earlier stages of disease rate of regression is unclear and/or may not evident. Apart from this the neurological manifestations of cerebral palsy are delayed for at least several months due to the immaturity of the nervous system Two types of motor deficit phenomena- negative phenomena and positive phenomena are evident in the cerebral palsy child. Negative phenomena represent as weakness, fatigue and incoordination and positive phenomena represent as spasticity, clonus, rigidity, and spasms. Spasticity refers to the increased velocity dependent muscle tone it is more frequent appearance due to hyperreflexia resulting from stretch reflex hyper excitability (Jan 2002).

1.6Diagnosis of cerebral palsy:

Clinical assessment is the main diagnostic tool for Cerebral palsy (Rana, Upadhyay, Rana, Durgapal, & Jantwal, 2017). Most of the cases the diagnosis of cerebral palsy based on clinical sign and symptoms but complete physical and neurological examination and also complete history taking with genetic background essential for accurate diagnosis of the cerebral palsy, assessment of developmental milestone and regular follow-up is very essential for young child for proper diagnosis (Ashwal et al,

2004). Most of the cases cerebral palsy is diagnosed first two years of life, for accurate diagnosis of the cerebral palsy child healthcare provider must examine the developmental milestone, tone of the muscle, movement and postural control, hearing and vision test and also balance and coordination, but sometimes healthcare provider unable to diagnosed cerebral palsy then used some brain scanning method such as cranial ultrasound, computed tomography (CT), magnetic resonance imaging (MRI), and electroencephalogram (EEG) until the child aged reaches 4 to 5 years (National Institute of Neurological Disorders & Stroke, 2013).

1.7 Multidisciplinary Treatment approach of cerebral palsy:

As cerebral palsy cannot be fully cured, different therapeutic intervention with a multidisciplinary team approach is used for secondary impairment prevention and ensuring the child natural developmental milestone of the cerebral palsy child (Sharan, 2005). Physiotherapy and occupational therapy are more frequently used for functional improvement of the cerebral palsy child (Patel, 2005).

1.7.1.1 Physiotherapy treatment- Traditional physiotherapy is used for school going children because it accomplishes the necessity of active participation of the cerebral palsy child, Physical therapist applied different exercises such as progressive resistance exercises for improving muscle strength, range of motion exercises for improving joint range of motion, static but gentle pain free stretches are performed for prevent joint contracture and different healthcare providers such as physiotherapist, orthopedic surgeon, occupational therapist and orthotist are contribute for designing and implementing exercises thus improve posture and balance and increase gait and mobility (Patel, 2005).

1.7.2 Occupational therapy- Occupational therapy plays a vital role in the development of those skills which are essential for activities of daily living thus include playing, feeding, dressing, grooming and also the task for fine motor skills such as writing and drawing (Hoda, & Hamid, 2013).

1.7.3 Neurodevelopmental treatment- The objective of this technique is to facilitate the motor development and prevention of muscle contracture and limb deformities

like secondary impairments (Butler, & Darrah, 2001). Berta and Karl Bobath in 1940 developed this method of treatment (Mayston, 2002).

1.7.4 Sensory integration- In 1970, A. Jean Ayres develop a treatment method for cerebral palsy children with sensory processing difficulties. Sensory integration disorders comprise sensory modulation, discrimination and motor disorder (Schaaf, & Miller, 2005). Sensory integration therapy helps to develop and implement natural adaptive behavioral responses and improve the ability of the child to perform and integrate sensory networks (Patel, 2005).

1.7.5 Constraint-Induced Movement Therapy (CIMT)- Constraint-induced movement therapy helps in increasing grey matter volume in the area of the motor cortex which is responsible for movement (Edward Taub. the University of Alabama at Birmingham). Constraint-Induced Movement therapy appears to benefit children with cerebral palsy. (April 2013. www.news-medical.net/news/2013.04.22). The basics of Constraint-Induced Movement Therapy is the constraint of the unaffected hand which encourages the use of the affected hand; the massed practice of the affected hand, and the use of intensive techniques to train the affected hand (Sankar, 2015).

1.8 Protibondhi seba –o – sahajjo kendro and its activities:

In the light of international initiatives and quality of service and the right and protection of person of disabilities declared by the UNCRPD and neurodevelopmental protection act 2013, the national disability development foundation was formed at 2009 and it is the responsible for ministry of social welfare. The national disability development foundation was formed to ensure the normal living, dignity and rights of all people with disabilities and participation in rehabilitation services to facilitate post-partum societies. There are 103 protibondhi seba-o-sahajjo kendro were operated by this foundation. Through these centers, the main aim is to provide free disability detection survey activities in all districts and provide free medical and therapy services to all persons with disabilities and person at risk of disability to provide healthy living through the treatment and rehabilitation. In the fiscal year of 2017-2018, nearly 40 lacks and four thousands medical and therapy services and about 34

thousands assistive devices were provided through 103 PSOSK. The main tasks of the PSOSK are formulation and implementation of policies related to disability, training and rehabilitation of children with disabilities and to coordinate the teaching, learning and rehabilitation of disabled children.

1.9 The consequence of CP in Bangladesh:

Bangladesh is a developing country in the World. Disability is the utmost common challenging issue most of the developing countries in the World. Cerebral palsy is the most common condition that is responsible for the child disability; a child is born with any disability then it bears curse for its family, even the parents are treated as the results of great sin. This thinking has been changing day by day in most of the countries of the developed world, but some developing countries like Bangladesh have not enough awareness of disability (Werner, 1988). Disability in a child resulting from CP not only affects the child's life but also the family's life. Everyday problems in caring for a child with disabilities are difficult. The parents and other members of family, relatives and even neighbors experience stress to a variable extent. Children with disabilities mostly live in developing countries. In developing countries, the majority of families are already living under difficult conditions with few resources and little access to appropriate Services.

1.10 Justification:

In the world, one in every five cerebral palsy children suffers from severe multiple disabilities and they required long term continuous care for rehabilitation (Lim, Seer, & Wong, 2009). Developing countries always keep on more attention on the curative and preventive measures rather than rehabilitation for emphasis on the health care system (Adams, Gordon & Spangler, 1999). 85% of the disabled child lived in developing countries and less than 5% get rehabilitation services (Maloni et al., 2010). Children with cerebral palsy required rehabilitation care both at home and rehabilitation center, in this situation Mothers of children with cerebral palsy are usually the primary caregivers of their children, (National Bureau of Statistics, 2011). Inadequacy of resources and poor distribution of health care professionals between rural and urban regions add to problems of rehabilitation in developing countries, this has resulted in many patients in rural settings going without treatment or having to

travel long journeys to urban areas for treatment (Adams, Gordon, Spangler & Maternal, 1999). Parents and caregivers are in the front-line of caring for individuals affected by cerebral palsy. Typically, in rural and undeveloped areas, these caregivers have had no or limited access to skills and training (Servaes et al, 2016). Consequently, it is out most important to recognize how parents/caregivers of the children with cerebral palsy manage their children's physiotherapy services and the potential barriers they encounter during the use of the services. Hence knowledge of those factors that affect adherence to physiotherapy appointment among the children with CP has an important association for ongoing efforts directed at proper rehabilitation of those children (Usman et al., 2017). The developing countries causes of causality and rates of survival and pathogenesis of CP are not well understood (Singhi, &Saini, 2013). There are huge knowledge gaps about CP in Bangladesh, mainly in the scopes of epidemiological research, intervention and service application, due to little known about CP in Bangladesh the government and service providers are restricted in their ability to measure current and future resource distribution to needs or to identify preventive strategies (Khandaker et al., 2015).

1.11Operational definition:

Adherence- The extent to which a person's behavior corresponds with agreed recommendations from a healthcare provider complying with prescribed treatment.

Compliance- Compliance as used in this study means the ability of the parent to bring the child consistently every week for treatment. The researcher opted to use Compliance and adherence interchangeably in the document to define the following of treatment instructions and keeping

Cerebral palsy- It is a general term for a group of permanent non-progressive movement disorders that cause physical disabilities.

Communication with the Doctors- The relationship between the doctor and the patient during treatment which can either be negative or positive which can affect adherence to treatment.

Occupational Therapy – The occupational therapy is used for the treatment of cerebral palsy children to develop, recover, or maintain the daily living and work skills of people with physical, mental or developmental c conditions.

Knowledge of the Cerebral Palsy-The individual's health awareness about the condition of their disease and the ability to appreciate the importance of treatment in the management of that disease.

Parents and Caregivers- In this study, the term “parents” refers to the child’s biological parents whereas “caregiver” refers to other careers such as grandparents, and other relatives or supporters. These two terms are used because the biological parents may not necessarily be the prime caregivers of the child or the person who brings the child for treatment to the Occupational Therapy clinic.

Rehabilitation- This refers to all measures aimed at reducing the impact of disability for an individual enabling him or her to achieve independence, social integration, a better quality of life and self-actualization (WHO, 2000)

Social/Economic Support- Social and economic Support is the availability of resources for the day-to-day survival and interactions that take place that creates the bond between people. This includes include the availability of finances for treatment and social support including physical support which can contribute to adherence.

Travelling Distance- This is the distance needed to travel to the health facility in terms of Kilometers, and the geographical accessibility

Waiting Time- Waiting time is the average time the client takes between arrival and the actual beginning of service. This includes time before receiving attention from the therapist, the lost income during the time spent at the clinic and the time used in traveling to and from the clinic.

1.12 General Objective:

To find out the factors affecting adherence to physiotherapy appointment for caregivers of children with cerebral palsy in Bangladesh.

1.13 Specific Objectives:

To explore the socio-demographic characteristics of the participants.

To investigate the socio-demographic information of the caregiver of patients with cerebral palsy.

To find out the influence of communication between clinician and Clients on adherence to physiotherapy intervention;

To explore the effect of socio-economic support on adherence to Physiotherapy intervention;

To assess the effect of waiting time on reception adherence to physiotherapy intervention.

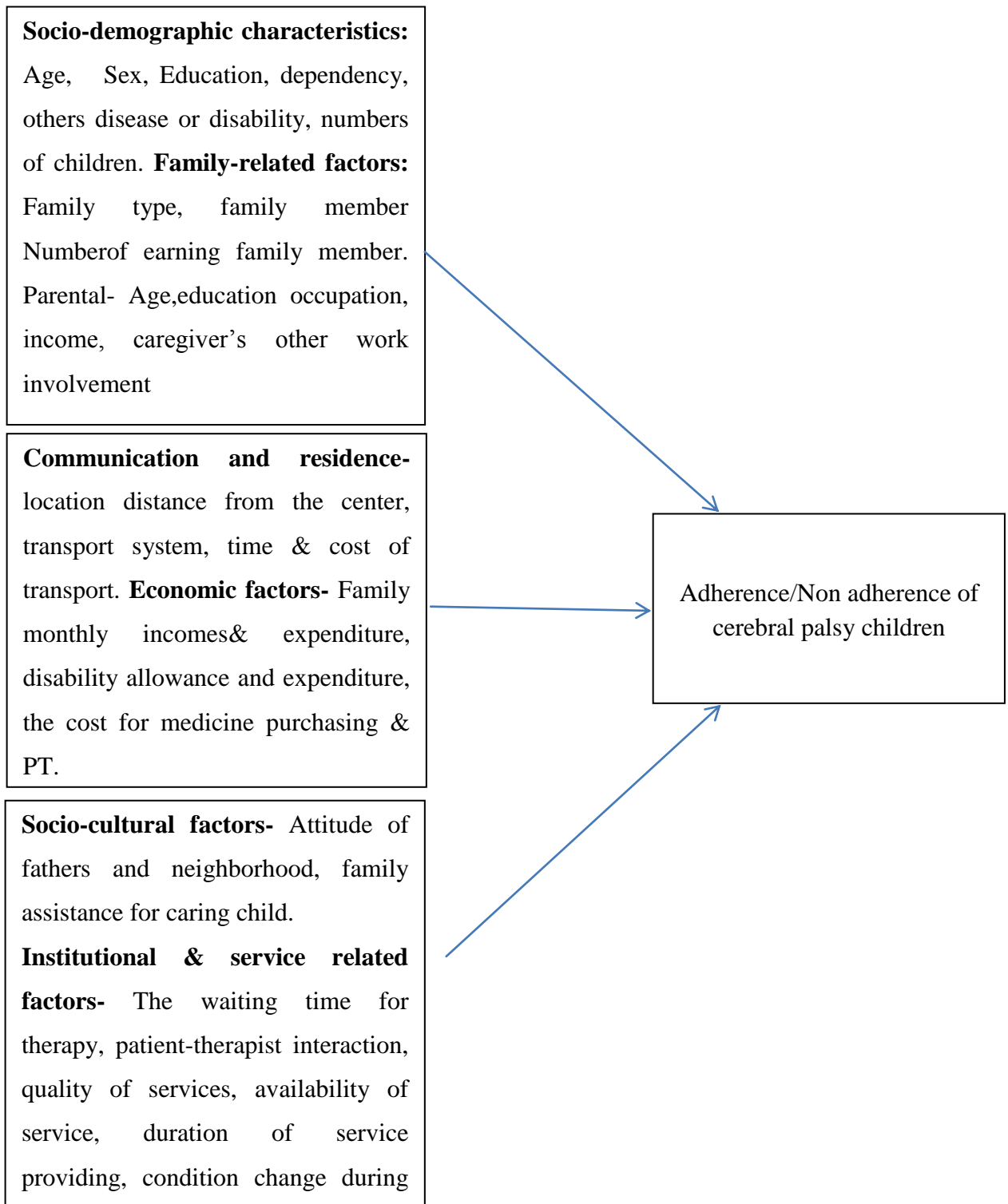
To find out the effects of parent's awareness about cerebral palsy on adherence to physiotherapy intervention.

1.14 Research Question

What are the factors influencing the adherence to physiotherapy services among the caregivers of children with cerebral palsy in Bangladesh?

1.15 Conceptual framework

Independent variables Dependent variable



This chapter described different themes find out from a critical review of literature that is published in a different scholarly article. In these sections, various scholarly articles of relevance field are carefully critical reviewed and identify the gaps and stabilized the significance of the current study.

2.1 Role of physical therapy

Physical therapy plays a vital role in achieving maximum physical functioning thus makes the cerebral child fully potential in their homes and communities (Bailes & Succop, 2012). Diseases like as cerebral palsy, which have one or more of the following characteristics such as it is permanent and remain long-lasting residual disability that are resulting for non-reversible pathological changes of the brain tissue, for this circumstance require special training of the cerebral palsy child for rehabilitation, or may be required a long period of supervision, observation or care (Mills, O. 1982). Most of the developing countries in the world give more attention and invest more money for the aspect of curative and preventive of the disease; they always pay less attention to the rehabilitation of disease. It is very important for a cerebral palsy child to long term adherence with the rehabilitation process.

2.2 Adherence

Adherence refers to the commitment of the attendance to the healthcare provider for following the instruction as long as he recommends, it is multidimensional process thus includes attendance appointment, followed advice, receiving suggested exercise correctly and effectively, adherence is concurrently predisposed by numerous factors; some of these are possibly modifiable, with potential for use in screening to identify non adherent patients (Lopez et al,2015). These factors demonstrate the importance of accurate identification of the various reasons for patient non-adherence to treatment plans. Patients adherence to the treatment may be influenced by three factors related to the patients itself, health care provider and organizational factors, there are lot of factors thus related to patients Such as psychological factors, their temperament, knowledge about disease and their thought and belief; healthcare providers factors as

like attitude to the client, lack of professional accountability and responsibility, personal familiar conflict are thought to be affecting the performance and organizational factors as quality of services which demotivated the patients may influence to adherence with treatment (Miller, Hill, Ihotke&Oclhene, 1997). Regular follows the appointed attendance, follow the advice of healthcare providers and prescribed exercises are the main component of good adherence, poor adherence identified as the major obstacle for gain the expected result across the different health care discipline (Campbell et al, 2001). Different studies in the respected research field suggested that the rate of non-adherence as high as 70% due to poorly follows the treatment regimen and exercises mainly for unsupervised home exercise programs (sluijs et al, 1993). Non- adherence produces a severe impact on treatment effectiveness of chronic disease and it increases health care cost and poorer treatment outcome (Vangeli et al, 2015).

According to the healthcare providers, therapeutic compliance is very important for a patient for two reasons, firstly it is very important for treatment outcome and secondly non-compliance increased the financial burden for the client as well as society. Poor treatment outcome directly associated with non-compliance(Cameron, 1996). Resembling any other clinical condition, patient adherence to treatment appointment is important for the therapeutic program to the effective management of cerebral palsy. Deprived of obedience, the therapeutic objectives cannot be accomplished, resulting in poor outcomes (Usman, Abdulmanaf, Abba, &Kani, 2017). For therapeutic compliance of the drugs in infectious disease is important for two reasons, non-compliances of the drugs have a direct effect as treatment failure and also indirect impact is developed of drug resistance of this particular microorganism (Sanson-Fisher, Bowman, & Armstrong, 1992). Patients who have poor compliance with the drugs ultimately dropout from the treatment and therefore little or no benefited from the treatment (Lim &Ngah, 1991). In Australia, about 25% of hospital admission and in the USA nearly 33%-69% of medicine-related hospital admission occurred due to non-compliance of treatment regimens (Osterberg&Blaschke, 2005).

2.3 The consequence of non-adherence:

Non-compliance refers to the failure of regularity to maintain and follow the prescribed session by the client (Ring et al, 2011). Where longer duration

rehabilitation is required non-adherence is the principal cause of treatment failure (Sabate, 2003). Worldwide one third to half of the recommended treatment sessions are not followed by the client as prescribed by their clinician and the non-adherence rate is much greater in young and young adults than amongst adults and late adult (Carter, Taylor, &Levenson, 2005).

2.4 Factors related to non-adherence:

Why non-adherence occurs it is important to know for improving patient adherence, various literatures acknowledged that various factors are related to adherence to the patient with treatment regimens such as socio-demographic, psychological, an attitude of healthcare provider and disease & treatment-related factors. (Delamater et al, 2001)

2.5 Factors influencing adherence to physiotherapy:

There are various factors are identified in different literature thus have importantly influenced adherence; these factors include social, economic and behavioral factors. These factors show a significant role on adherence to treatment regimens which play an important role on healthcare benefit to the patients either positively or negatively beside these financial constraints, little or no change of the condition after treatment and the travelling distance for seeking the treatment have significant effect on patient's adherence to treatment (Rosenbaum & Steward, 2006). Patient or caregiver adherence to treatment also influenced by the interaction between family members, therapists, and patient or caregiver interaction and the treatment environment of the organization. The way treatment provided in the hospital/ institute can affect the adherence in the treatment for next time (Kerkorian, Bannon& McKay, 2006). Besides this, blameless treatment and reinforcement always motivate the client to adhere to treatment as prescribed by the clinician. A positive experience of prior contact with the patients always reinforces the patients to strive for treatment next time, on the other hand, negative experience and approach will produce the converse effect on treatment adherence in the forthcoming time. These observations suggested that compliance of therapeutic intervention can be influenced by some factor that acts as barriers to treatment adherence (Kazdin&Wassell, 2000).

2.5.1 Traveling distance to the therapy center:

The distance needed to travel from the client residence to the therapy center sometimes acts as a barrier to participation and regular maintenance of the prescribed sessions by caregivers or patients, sometimes geographical accessibility can act as a hindrance to regularly attend to the treatment by the caregiver of the cerebral palsy child. Long distance and complex access to treatment competence increase financial expenditures thus affect the adherence to the treatment regimen (Beardsley, Wish, Fitzelle, O'Grady, & Arria, 2003).

Parents or principal caregiver who are employed it is very difficult to find time out to maintain regular contact the cerebral palsy child to treatment/therapy. Studies point toward that Travelling distance and waiting time for therapy affects adherence to that of a particular treatment. One study conducted on barriers to accessing HIV/AIDS treatment found that fifty-eight percent of participants stated that long distance traveled and transport unavailability is the main barriers to adherence to the requisite treatment schedule, in this study author recommended that healthcare facility location one of the major determinant of access and utilization of services (Reif, Golin & Smith, 2005). Another study conducted by Tolhurst and Nyonator (2006) found that three major factors such as traveling distance, negative attitude of healthcare service holder and prolong waiting time are the major obstructions to access the healthcare services. (Grilli et al, 2007).

2.5.2 Waiting Times in reception: Waiting time may be defined as the average time required for the client between entrances and the service beginning, it is observed in various dimension thus include- time before starting consultation by clinician; cost of lost time that spent at waiting room; the travel time from the residence to service center and also from the service center to residence; if service holders take a long time to provide services and client perceived that healthcare provider ignore him then the patient did not maintain adherence for this treatment. Patient and caregiver always fever to spent less waiting time for treatment in the health facility, Regular prolong waiting time for receiving treatment is difficult for both the caregiver and patient (Lonroth, Tram, Thuong, Hoang, & Diwan, 2001). Excessive waiting time for treatment for the serial always a stressful condition for patients and intolerant for caregiver thus result in dis-satisfaction with healthcare (Waseem, Ravi, Radeos, & Ganti, 2003).

2.5.3 Traveling Time: The Long distance required more time to reach the treatment facility thus always discourage the adherence to treatment on the others hand shorter time required for short distance thus always encourage patient adherence (Gonzalez, Williams, Noël, & Lee, 2005).

2.5.4 Duration of Treatment: Longer duration of treatment period might produce a negative influence on treatment adherence (Dhanireddy, Maniscalco, & Kirk, 2005). Patient with recent injury or illness showed higher adherence than those have a chronic prolonged illness (Gascón, Sanchez-Ortuno, Llor, Skidmore, & Saturno, 2004). Patient adherence for a longer duration of therapies in both developed and developing countries is very low (World Health Organization. (2003).

2.5.5 Caregiver awareness about disease: Ignorance of patient/caregiver about the disease, what kinds of treatment are provided and how could be effective it for him are the major obstacle of the patient for adherence (Buttman&Svarst, 2002). In a study conducted in the USA, about determined the rate of adherence to antiretroviral therapy and participant's HIV related knowledge and in this study authors found that patients who had sound knowledge about HIV, they are good adhered to treatment (Weiss et al, 2003). Lack of understanding about the disease and also lack of knowledge about the role of them to performed therapy had a major effect on the poor compliance of treatment (Gascon et al, 2004).

2.5.6 Clinician-patient interaction: Bad patient-clinician interaction is indicated to be a problem to utilization and adherence to health care services in different countries; unpleasant experience of parents with the service provider in health care facilities those parents may stop their child for taking treatment (Sharkawy, Newton, & Hartley, 2006). Studied found that when a healthcare provider is supportive, showing respect and treating the patient as an equal partner treatment compliance is good (Lawson, Lyne, Harvey, & Bundy, 2005).

2.5.7 Caregiver and healthcare provider relationship: Mothers of children with cerebral palsy are usually the primary caregivers of their children, and the care of

these children occurs both at home and hospital, in some instances, the whole family becomes active participants in caring for the child. This role places great demand on time and energy of the family and primary caregivers and also requires more resources (National Bureau of Statistics, 2011). A strong trusted relationship between the caregiver and healthcare service provider plays a vital role in encouraging effective treatment utilization (Klok et al, 2011).

2.5.8 Socio-economic status: Socio-economic status and adherence have a significant relationship; despite available effective treatment facilities and high cure rate the outcome of intervention remain submaximal in a different part of the developing country of the world due to poor socio-economic condition and poor health pursuing attitude (Usman et al, 2017). In a developing country where resources are limited socio-economic factors have to be a major obstacle to received healthcare services (Hill & Zimmerman, 1995).

2.5.9 Economic support: Evidence supported that economic loss due to medication cost influence the adherence, individual with low economic support always the candidate of non-adherence of the treatment (Snodgrass, Vedanarayanan, Parker, & Parks, 2001).

2.5.10 Challenges of parents:

It is very much challenging for parents and caregivers to continuing to adhere to a physiotherapy appointment follow the instruction thus provided by the physiotherapist in the management of their child's disability efficiently (Usman et al, 2017). In a study by Khan showed that most problems associated with regularly carrying the children for therapy by the womb, gross feeding problems, unavailability of transport facility. (Khan, & Rahman, 2000).

3.1 Study design

The study design was a cross-sectional study. A cross-sectional study is the most common survey approach used to consider questioning respondents about the past as well as current events. Considering this, choosing this method and design to accomplish the research purpose and it is important to acknowledge the work settings of the graduate physiotherapist who are doing the job at protibondhi Seba o sahajjo kendro.

3.2 Study area

Physiotherapy unit at protibondhi seba-o-sahajjo kendro(PSOSK)- Rajbari, Jessore, Comilla, Sylhet, Khulna, Pabna, Magura, Pirojpur, Rangpur, GhoraghatDinajpur, Barguna, Rupsha Khulna, Nawgaon, Dinajpur and Jattarabari (Dhaka).

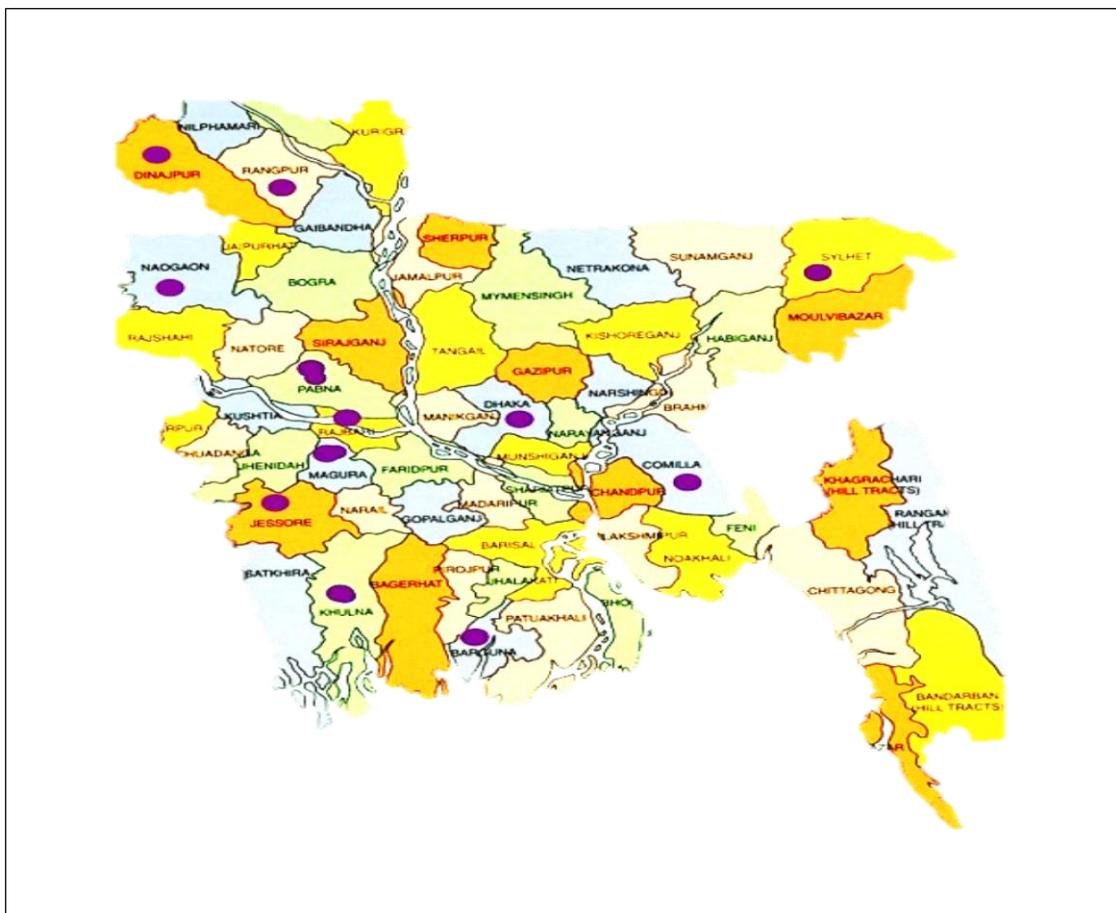


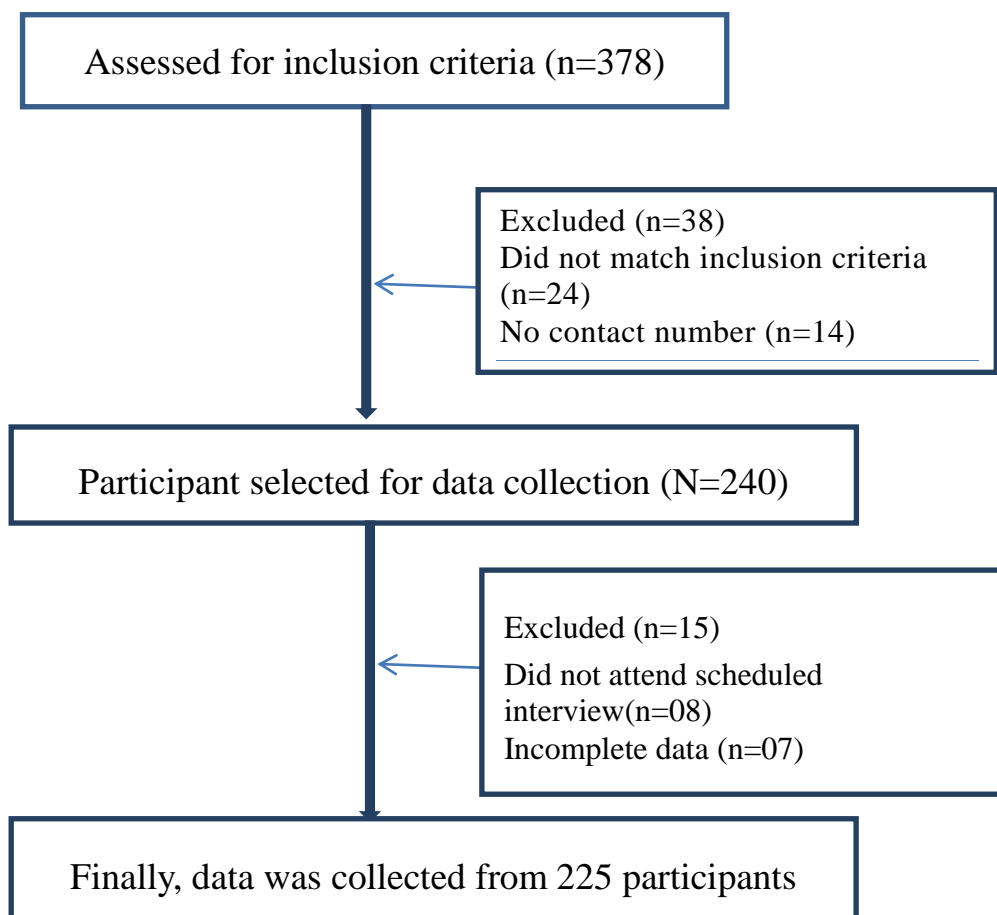
Figure: Study areas in Bangladesh

3.3 Sample size: A total of 225 attendances with the cerebral palsy child were enlisted for this study.

3.4 Study Population: Attendance with cerebral palsy children.

3.5 Sampling procedure: For research purpose 225 attendances were assigned as convenience sampling techniques. The convenience sampling technique may consist of respondents living in urban, semi-urban and city area. It is the simplest and least reliable form of non-probability sampling. The researcher took data from the principal caregiver's randomly who came at protibondhi seba- o- sahajjo kendro to take Physiotherapy treatment or continuing their treatment either regularly or irregularly. It is, therefore, more representative and the investigator used a convenience sampling technique to get the appropriate sample and to maintain the standard of the study.

3.6 Flow chart of sample selection:



3.7 The Inclusion criteria:

- Diagnosed cerebral palsy child's caregiver who already registered for physiotherapy treatment in protibondhi seba- o- sahajjo kendro.
- Age of cerebral palsy child in between 1-10 years.
- Cerebral palsy children in both genders are included in this study.
- A cerebral palsy child who received at least three months of physiotherapy intervention outdoor basis at protibondhi seba o sahajjo kendro in the selected centers.
- The cerebral palsy child who lived both in the urban and rural area.

3.8 Exclusion criteria:

- The age of cerebral child less than one year and above teen years.
- The cerebral child who registered less than three months ago for physiotherapy service from protibondhi seba o sahajjo kendro.
- Non-co-operative caregiver.

3.9 Data collection procedure:

Data collection procedure was begun to explain the purpose of the study and taken informed verbal consent from 225 attendances that was selected for this study based on inclusion and exclusion criteria. Before data collections from the caregivers were assured that all the information collected from them would be kept confidential and this would be used only for thesis purposes. Data were collected from the fourteen (14) different districts and Upazila in Bangladesh such as From Rajbari district -19 data, Comilla-31, Sylhet-21, Khulna-10, Pabna-15, Magura-19, Pirgonj, (Rangpur)-18, Ghoraghat (Dinajpur)-15, Barguna-12, Rupsha (Khulna)-17, Jessore-15, Nawgoa-19, Dinajpur-06 and Jatrabari-08.

3.10 Data collection tools:

Data were collected using a questionnaire consisting of closed structured question through face to face interviews done by a physiotherapist having 5 years of experience in working with children with CP. This data collection procedure was completed within one month. To collect data there were used those working settings where they work and then collected data from them. There were used Bengali questionnaires with simple wording because all the parents have understood better in

Bengali. All parents do not speak English. This means that the participants didn't face any difficulty in understanding the questions included in the questionnaire. The questions thus used for this questionnaire set up sequentially. The duration of data collection was approximately one (01) month. It took approximately 20 minutes from each participant for this purpose. Within one month the investigator conducted this study project with the participants and collected the data very carefully while all recorded manually in a paper

The questions in the instrument were generated through literature reviewing and studying a sample of questionnaires from related articles. So the questionnaire was validated by the panel of experts in the department. The study comprises 93 structured questions that were used to assess the socio-demographic characteristics of the CP children, siblings, and parents. Socio-economic status of the caregiver's and parents. Characteristic of the communication and residence, Socio-cultural characteristic and the information of the institutions

Adherence is estimated by considering the number of the attendance of prescribed appointments divided by the total session he or she received treatment (from the first appointment) multiply by onehundred i.e.

Session of received treatment

$$\text{ADHERENCE} = \frac{\text{prescribed appointments}}{\text{Session of received treatment}} \times 100$$

Where a score of $\geq 70\%$ considered to be adherence, while $< 70\%$ considered to be non-adherence

3.11 Data input and analysis:SPSS (version=23) software was used for statistical analysis of data and the significant level set at $p < 0.05$, determine the barriers for long term adherence of CP children to physiotherapy services.

3.12 Ethical consideration:The study was done by following the World Health Organization (WHO) and Bangladesh Medical and Research Council (BMRC) rules as per. This study will be approved by the Institutional Review Board(IRB) of the Bangladesh Health Professions Institute (BHPI) and before that data collection was started, permission was taken from the Respective disability affairs officer/ consultant (Physiotherapy) of the center (PSOSK) at Rajbari, Comilla, Sylhet, Khulna, Pabna,

Magura, Pirgong, (Rangpur), Ghoraghat(Dinajpur), Barguna, Rupsha Khulna, Nawgaon, Dinajpur, and Jattarabari. Jessore. Beginning the data collection, permission was obtained from the concerned authorities ensuring the safety of the participants. Inform consent was given to the participants. The consent paper was included the purpose of the study, data collection time and ensure the security of the information of the participants.

There are 240 children with cerebral palsy were enlisted for this study but there were 15 children were excluded from the study because eight (08) caregiver were not able to attend at interview session on schedule time and seven(07) participants provide incomplete data so, finally 225 children with cerebral palsy were enrolled in this study. In this section discussed the demographic characteristics of cerebral palsy children who participate in this study. The effect of the characteristics of caregiver’s age, marital status of the mother, level of parent’s education and occupation, monthly income of father and family. The location of the residence, traveling distance, mode and cost of transport and the sociocultural constraint which influence the adherence of long term rehabilitation of cerebral palsy children. Table 1 shows the socio-cultural characteristics of the CP children.

Table 1: Socio-demographic characteristics of the CP children

Age of CP child (Months)					
Age Range		Frequency	(%)	Mean ± SD	
12-24		56	24.9		
25-36		50	22.2		
37-48		28	12.4		
49-60		28	12.4	49.90±29.50	
61-72		16	7.1		
73-84		19	8.4		
85-96		08	3.6		
97-108		08	3.6		
109-120		12	5.3		
Gender of CP children			Schooling of CP children (Age>60months) N=63		
Gender	Frequency (%)		Schooling	Frequency (%)	
Male	122	54.2	Yes	22	34.92
Female	103	45.8	No	41	65.08

P. T. O

Total number of children in the family

Values	Frequency	%
One	94	41.8
Two	88	39.1
Three	36	16.0
Four	06	2.7
Five	01	0.4

Table 1: Shown the Distribution of socio-demographic characteristics of Children with cerebral Palsy. The mean age of CP child was 49.90 ± 29.50 months, minimum age was 12 months and the maximum age was 120 months. The age range showed 71.9 % child age was in between 12-60 months (with in 5years) and 28.1% age was above five years, so these percentage were eligible for schooling but among these 34.92% go to school and 65.8% child did not go to school. 54.2 % CP child was male and 45.8% were female As nearly one third of child age was within five year result showed that, 93.8 % CP child dependent with parents or others caregiver. 41.80 % was first child of the parents and 39.10 % of parents were another Childs.

Table: 2 Co-morbidity and Treatment history of Cerebral Palsy Children.

Characteristics	Frequency	%	Characteristics	Frequency	%
Other disease			CP child required doctor's consultancy		
Yes	62	27.6	Yes	174	(77)
No	163	72.4	No	51	(23)
Types of disease (someone was more than one disease)			Doctor's consultancy need for CP Childs (multiple response)		
Pneumonia	27	12.0	Neurologist	80	35.6
Asthma	13	5.8	Orthopedics	06	2.7
Seizure	24	10.7	Medicine	10	4.4
Heart disease	01	0.4	Pediatrics	58	25.8
General illness	02	0.9	Others	30	13.3
Other disability			Take Medicine:		
Yes	102	45.3	Yes	150	66.7
No	123	54.7	No	75	33.3
Types of Disability(multiple response)			CP child dependent with others for ADL		
Hearing	12	5.3	Yes	211	93.8
Vision	09	4.0	No	14	6.2
Speech	65	28.9			
Intellectual	38	16.9			
Cerebral Palsy children received PT somewhere ago:			Cerebral palsy children receive PT as well as PSOSK:		
Yes	51	22.7	Yes	24	10.7
No	174	77.3	No	201	89.3

Table 02 showed that 163 (72.4%) CP child did not have any other disease during the study period and rest of 27.6% of CP child were suffering from different disease such as pneumonia, asthma, seizure, heart disease and general illness, among these percentages 12% of CP child suffering with pneumonia and second most number of

child that was 10.7% were suffered by seizure problem. 45.3% of child had other disability and among them 28.9% were speech problem, 16.9% were intellectual disability, 5.3% were hearing and 4% were vision problem. In this study 77% of CP Childs required doctor's consultation in various field of specialist, among of them 35.6% of the neurologist's consultation was accepted. And 25.8% accepted pediatric consultation. 66.7% of CP child in this study 66.7% of CP child took medicine according to respective doctor's advice. Nearly 23% of CP children received physiotherapy service somewhere ago and only 10.7% of children receive PT services from outside as well as PSOSK.

Figure: 01 Types of cerebral palsy

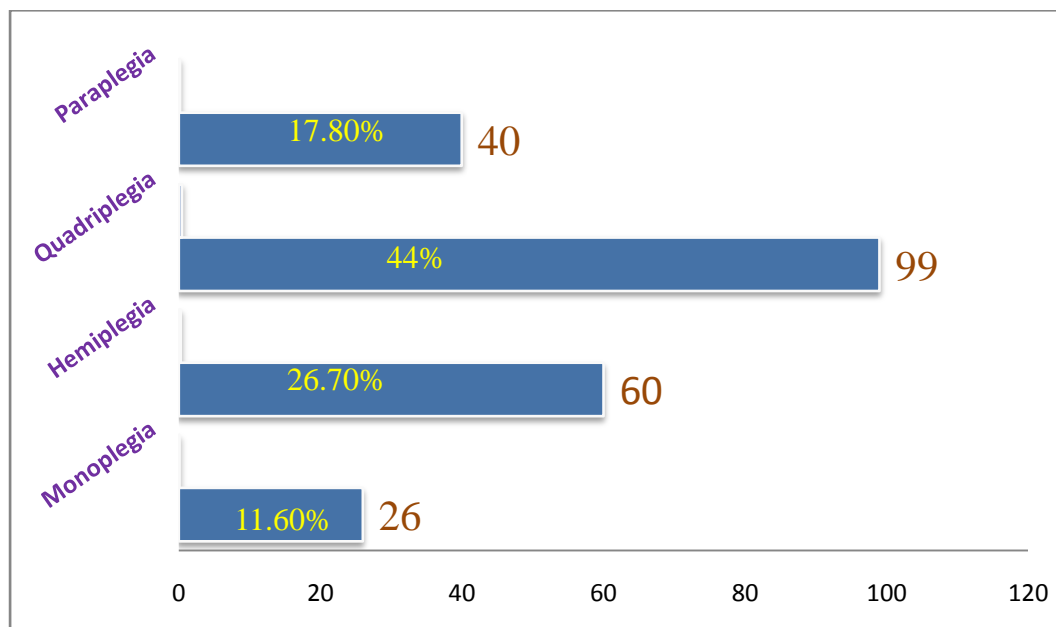
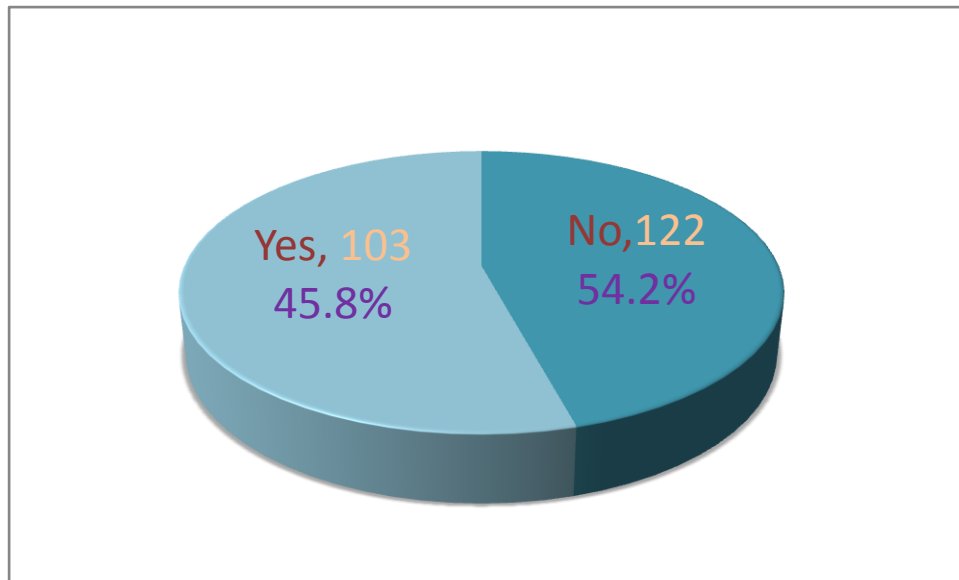


Figure 01 showed that 44% of quadriplegic and 26.7% of hemiplegic CP child were included for this study. Rests of percentage (29.3%) were suffering either Monoplegic or paraplegic type of cerebral palsy.

Figure 02: Assistive device used by cerebral palsy children



Pie chart show that only 45.8% of CP child required assistive device used according to their need, among 225 CP children 17.8% CP child were used Walker, 13.3 % were used wheel chair, 6.7% were used AFO/KAFO and also 12.9% used corner chair.

Table: 03 Socio-demographic characteristics of others children of the family

Sibling 01			Sibling 02		
Characteristics	Frequency	%	Frequency	%	
Age range:(months)					
0-60	50	22.2	18	8.0	
61-120	47	20.9	14	6.2	
121-180	24	10.7	7	3.1	
181-240	4	1.8	1	0.4	
241-300	3	1.3	2	0.9	
301-360	1	.4	Mean age ± SD	Mini	Maxi
361-420	1	.4	90.91±68.83	13	312

Mean age ± SD	Mini	Maxi			
95.69±65.28	1	420			
Table3(continue)Sibling 01				Sibling 02	
Characteristic	Value	Frequency	%	Frequency	%
Gender	Male	68	30.2	18	8.0
	Female	62	27.6	24	10.7
Schooling	Yes	89	39.6	25	11.1
	No	41	18.2	17	7.6
Illness	Yes	19	8.4	7	3.1
	No	111	49.3	34	15.1
Take Medicine	Yes	17	7.6	9	4.0
	No	113	50.2	33	14.7

Table 3 shows that 57.8%(130) families had another child, among them 30.2% male and 27.6% female child mean age of other child one was 95.69 months, 39.6% (89) go to school and 18.2%(41) did not go to school, Only 8.4% had any type of illness and 7.6% took medicine.

Table also shows that 18.7% (42) families had third child among them 18(8%) was male and 24(10.7%) was female, 11.1% was going to school , only 3.1% child was ill and 4% took medicine

Table 04: Socio-demographic characteristics of Family of the participants

Characteristics	Values	Frequency	%
Type of family	Nuclear	158	70.4
	Joint family	67	29.6
Family Members	3-5 (persons)	167	74.2
	6-8 ,,	37	16.4
	9-11 ,,	12	5.3
	12-14 ,,	4	1.8
	15-17 ,,	5	2.2
Earning Family Members	One(01)	175	77.8
	Two(02)	36	16.0
	Three(03)	8	3.6
	Four(04)	4	1.8
	Five(05)	2	.9

Table about family type shows, 70.2% of family was Nuclear and 29.4% was joint family. Most of the family, the family member was 3-5 that compromises 74.2%. 77.8% of family was single earning member and 16% was two earning family members.

Table 05: Distribution of socio-demographic characteristics of Parents of CP children

Characteristics	<u>Socio-demography of father</u>			<u>Socio-demography of mother</u>		
	Values	Freq.	%	Values	Freq.	%
Age (Years)	21-30	60	26.7	16-25	86	38.2
	31-40	125	55.6	26-35	115	51.1
	41-50	35	15.6	36-45	23	10.2
	51-60	3	1.3	46-55	1	.4
	61-70	1	.4			
Occupation	Farmer	40	17.8	House wife	216	96
	Day laborer	21	9.3	Priv. service	02	0.9
	Business	61	27.1	Govt. service	05	2.2
	Priv. service	27	12	Business	1	0.4
	Govt. service	12	5.3	Politician	1	0.4
	Tailoring	10	4.4			
	Driver	33	14.7			
Illness	No illness	207	92.4	No illness	189	84
	General sickness	03	1.3	General sickness	21	9.3
	Heart disease	04	1.8	Heart disease	08	3.6
	DM	04	1.8	Lung, Ear disease	01	0.4
	Others	06	2.7	HT, Gynecology	05	2.2
Education	Illiterate	25	11.1	Illiterate	18	08
	Primary	54	24	Primary	51	22.7
	Secondary	61	27.1	Secondary	81	36
	SSC	43	19.1	SSC	36	16
	HSC	22	9.8	HSC	27	12
	Degree/Hon's	11	4.9	Degree/Hon's	9	04
	Masters	08	3.6	Masters	3	1.3

Above table provide information about parents, shows that 55.6% of father age was within 31-40 years and 26.7% father age was within 21-30 years, on the other hands 51.1% mother age was within 26-35 years and 38.2% was within 16-25 years. 81.3% of father maximum education level was SSC, but maximum value was 27.1% of father stop their education at high school level and 82.7% of mother's maximum education level was SSC but maximum value showed that 22.7% of mother stop their education at primary level. On father occupation observation in table shows that 27.1% was business man and 17.8% was farmer, two fathers had no income and one father was dead. On the other hand 96% of mother was housewife. 92.4% of father and 84% of mother reported that they had no illness. Only 9.3% of mother reported they had general illness.

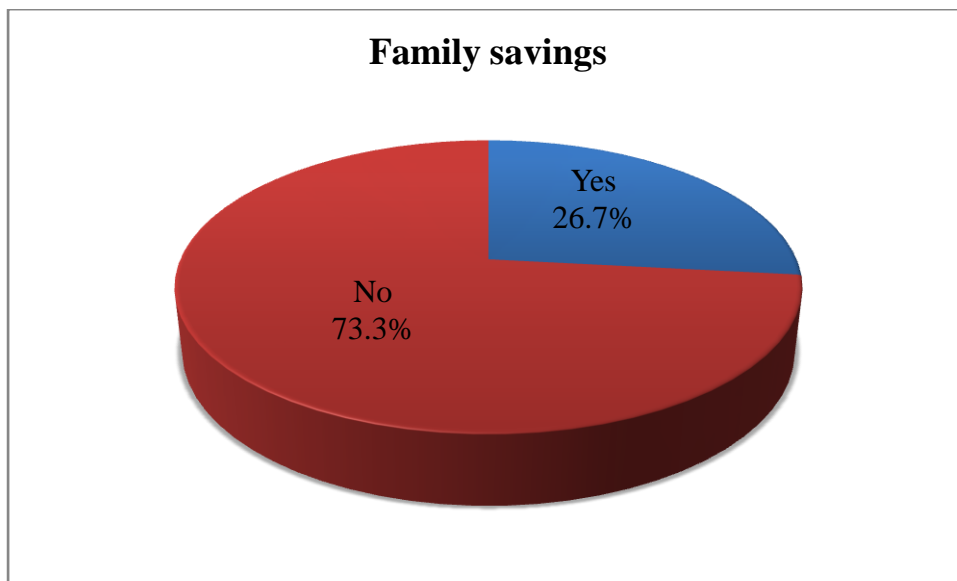
Table 06: Family income and Expenditure of the participants

Characteristics	Income range (T)	Frequency	%	Mean ± SD
Father monthly income(Taka)	1000-10000	105	46.7	14777±9096
	11000-20000	86	38.2	
	21000-30000	22	9.8	
	31000-40000	5	2.2	
	41000-50000	3	1.3	
	51000-60000	1	.4	
Mother monthly income(Taka)	10000-20000	6	2.7	22444±12390
	21000-30000	2	.9	
	31000-40000	----	-----	
	41000-50000	1	.4	
Family Monthly Income	4000-10000	85	37.8	17993±15762
	11000-15000	56	24.9	
	16000-20000	36	16	
	21000-30000	31	13.8	
	31000-40000	7	3.1	
	41000-50000	4	1.8	
	51000-100000	4	1.8	
	10100-150000	2	.9	
	11000-20000	89	39.6	
	21000-30000	14	6.2	
	31000-40000	5	2.2	
	41000-50000	3	1.3	
	51000-60000	1	.4	
	61000-70000	2	.9	

Family expenditure for medicine purchasing	100-1000	60	26.7	2063±1343
	51000-60000	1	.4	
	1100-2000	64	28.4	
	2100-3000	41	18.2	
	3100-4000	4	1.8	
	4100-5000	12	5.3	
	5100-7000	1	.4	
	9100-11000	1	.4	
Family expenditure for PT	50-1000	57	25.3	1860±2008
	1100-2000	28	12.4	
	2100-3000	10	4.4	
	3100-4000	5	2.2	
	4100-5000	5	2.2	
	9100-12000	3	1.3	

Above this table show that 46.7% of fathers' income was within one to ten thousand and 84.9% of father's income was within twenty thousand. The minimum income of father was fifteen hundred and the maximum income was sixty thousand. The mean income of the father was 14127±9962. Most of the mothers were a housewife and they did not have any income. Only nine mothers had income and their mean income was 22444±12390. In family total income observation, 37.8% was within four to ten thousand and 24.9% was within eleven to fifteen thousand. 49.7% of family monthly expenditure limited within one to ten thousand and 39.6% was within eleven to twenty thousand. The mean monthly family income was 17993±15762 and the mean family expenditure was 14127±9962. Monthly 26.7% of families expend their income due to medicine purchasing within one hundred to one thousand and medicine purchasing mean expenditure was 2063±1343. Some families expend their income due to physiotherapy treatment, 25.3% of family expend within fifty to one thousand taka and mean expenditure for PT was 1860±2008.

Figure 03: Family savings of the participants



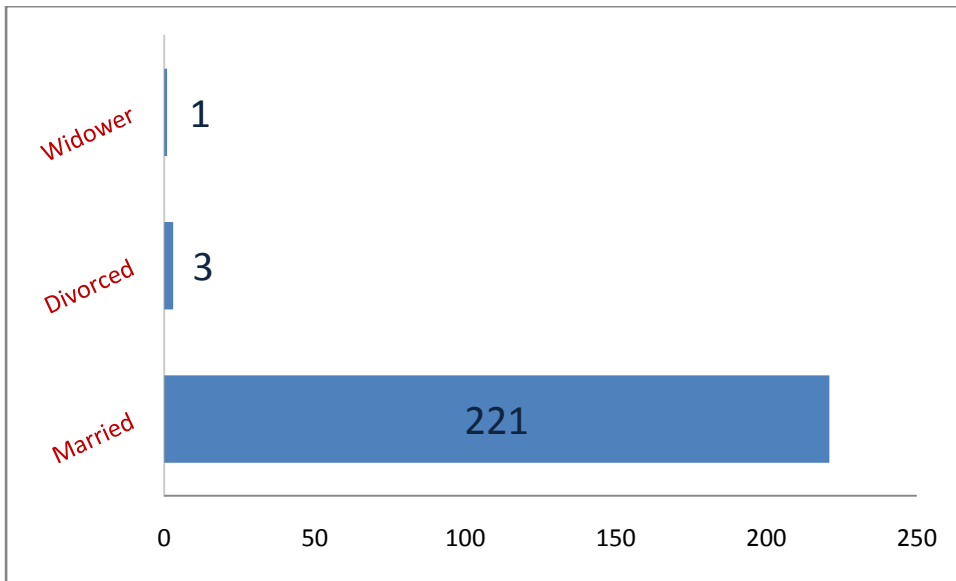
Above pie chart shows that 73.3% of family had no savings and only 26.7% family had savings.

Table 07: Mother housewife with others work involvement

Mother's others work involvement	Frequency(n=216)	(96%)
Yes	05	2.2
No	211	93.8
Mother's other work involvement time		Mean ± SD
Involve Time(min.)	05	.71±62.93
Mother's other work involvement income		Mean ± SD
Income (Taka)	05	7382.41±3301.52

In this study 96% of mother was housewife, among them only 05(2.2%) of mother involve with other work. Mother's other work involvement Mean time was 140.71±62.93 and their mean income was 7382.41±3301.52.

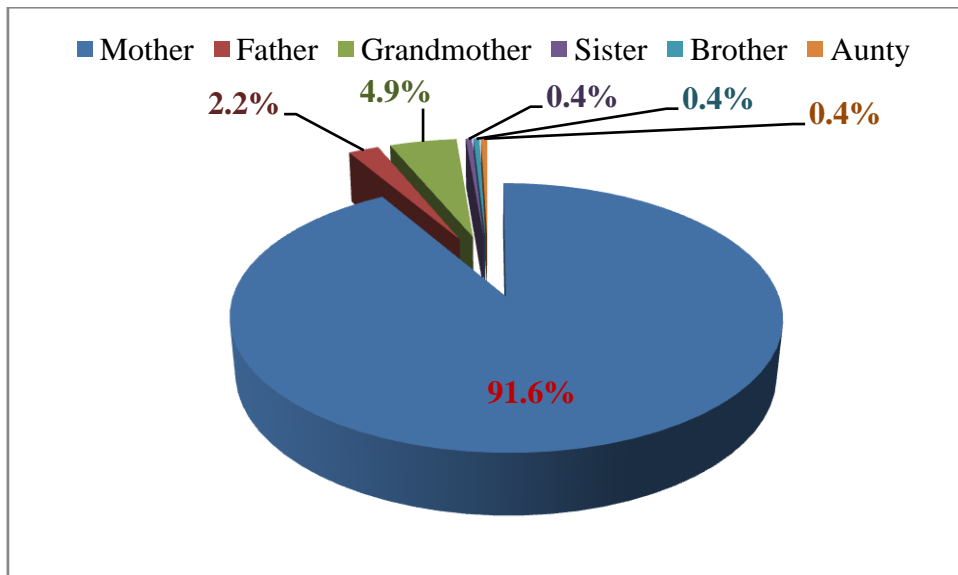
Figure04: Family status of mother



Bar chart

Among the 225 mother, three mothers were divorced and only one mother was widower and 221 were married that means they continued their relationship with their husband.

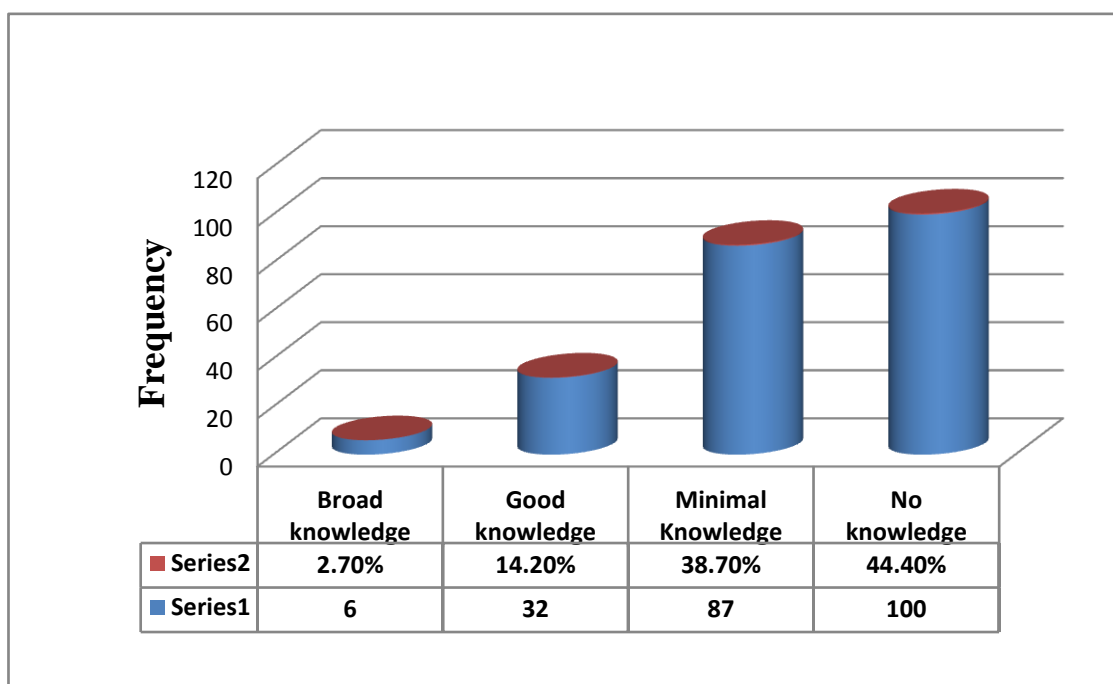
Figure: 05 Characteristic of Principal caregiver of the participants



Pie chart

Above chart shows 91.6% of principal caregiver was mother, 2.2% was father, 4.9% was grandmother and rest of percentage was sister, brother and aunty.

Figure: 06 Caregiver's awareness about Physiotherapy



Above figure show that 44.4% of caregiver had no knowledge/awareness about Physiotherapy, 38.70% had minimal awareness about treatment and 14.20% was known what exercise was performed for physiotherapy treatment for their child and only 2.7% of caregiver had clear image about physiotherapy and they are very optimistic about the health of their child

Table 08: Caregiver spend time at home for exercises of the CP children

Characteristic	Frequency	%	
Yes	110	48.9	
No	115	51.1	
Range of Time (min.)			<u>Mean ± SD</u>
5-30	81	36.0	
31-60	23	10.2	
61-120	3	1.3	35.15±33.90
121-180	1	.4	
181-240	2	.9	

Above table show that 51.1% caregiver did not spend time at home for exercising their CP child and 48.9% was spent time at home for exercising their child as prescribed by respective therapist. The mean times were 35.15±33.90 min as they spent for home exercises. The maximum value of 36% caregiver spent time as home exercise for their child within five to thirty minutes.

Table 09: Disability allowance and its expenditure

The government of Bangladesh trying to provide some amount of disability allowance for disable persons and the amount of allowance are seven hundred taka per month.

Disability allowance	Frequency	%
Yes	31	13.8
No	194	86.2
Disability Allowance expenditure:		
Allowance expenditure	Frequency	Percentages
By-	(n=31)	(13.8%)
Medicine	18	8
Food purchasing	02	.9
Therapy	03	1.3
Medicine, Food	04	1.8
Medicine, Therapy	03	1.3
Medicine, Therapy, Food	01	.4

Table shows that only 13.8% of cerebral palsy child get disability allowance from the government and 58.1% of caregiver, this disability allowance money was expend for medicine purchasing and only 9.7% used this allowance fees for therapy purpose.

Characteristics of Residence of the participants

Figure 07: Pie chart- shows location of residence of the participants

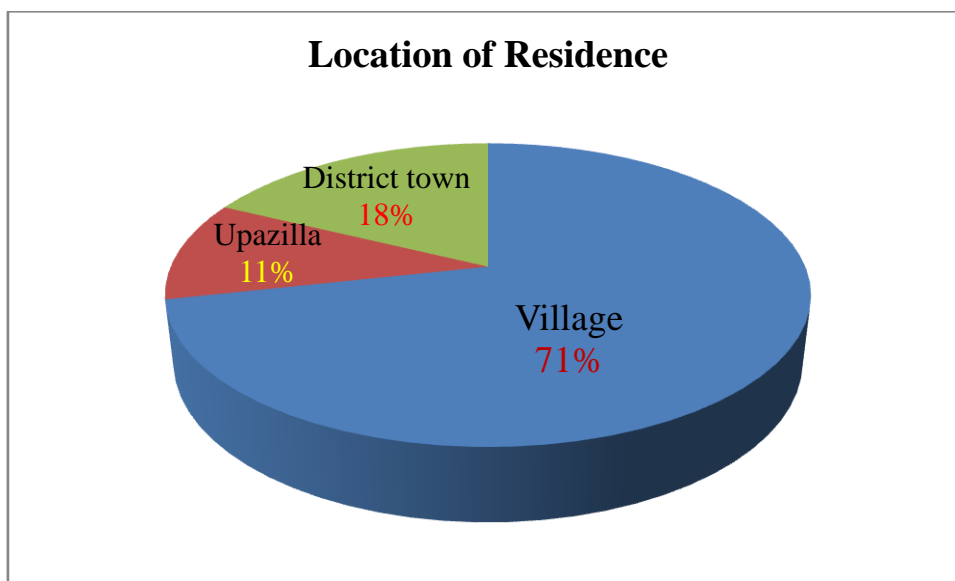
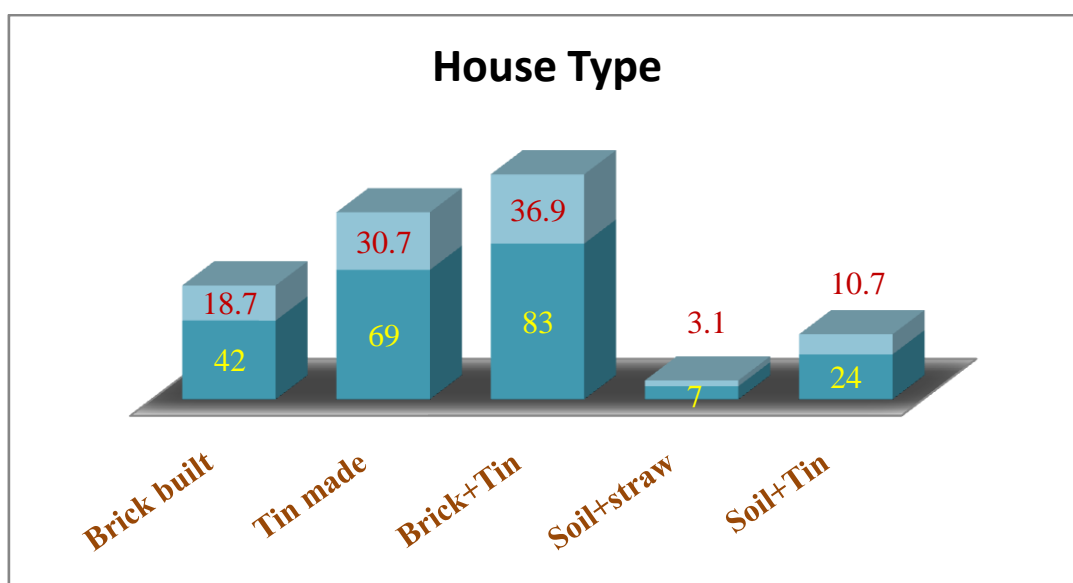


Figure shows 71% of residence located in the village, 11% in upazila and 18% located in the district town.

Figure 08: Characteristic of residence of the participants



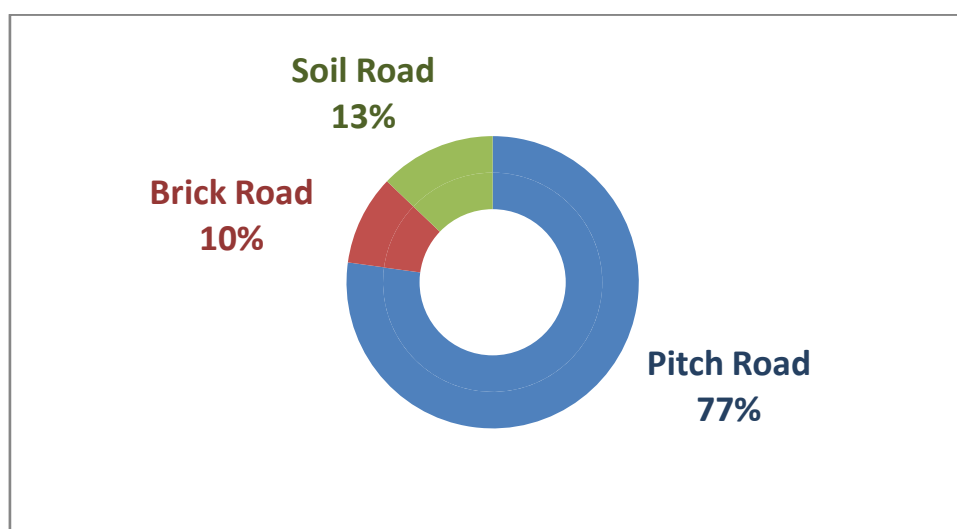
Above figure shows that 36.90% house is made by Brick & Tin, 30.70% is tin made. 18.70% is made by brick and stone and rest of percentage made by soil, tin or straw.

Table 10: Need stairs used in the residence of the participants

Characteristics	Values	Frequency	%
Stair Used	Yes	88	39.1
	No	137	60.9
Number of stairs used	1-4	75	33.3
	5-8	06	2.6
	9-12	04	1.7
	13-16	01	.4
	17-20	02	.9
Wheelchair accessibility in residence	Yes	92	40.9
	No	133	59.1

Above table showed that 39.1% of house required stairs starting and among this percentage 33.3% cases required use within one to four stairs. 59.1% of participants reported that in their residence wheelchair accessibility is restricted and 40.9% of participants reported they can use wheel chair in their residence.

Figure 09: Nature of road used for reaching on PSOSK-



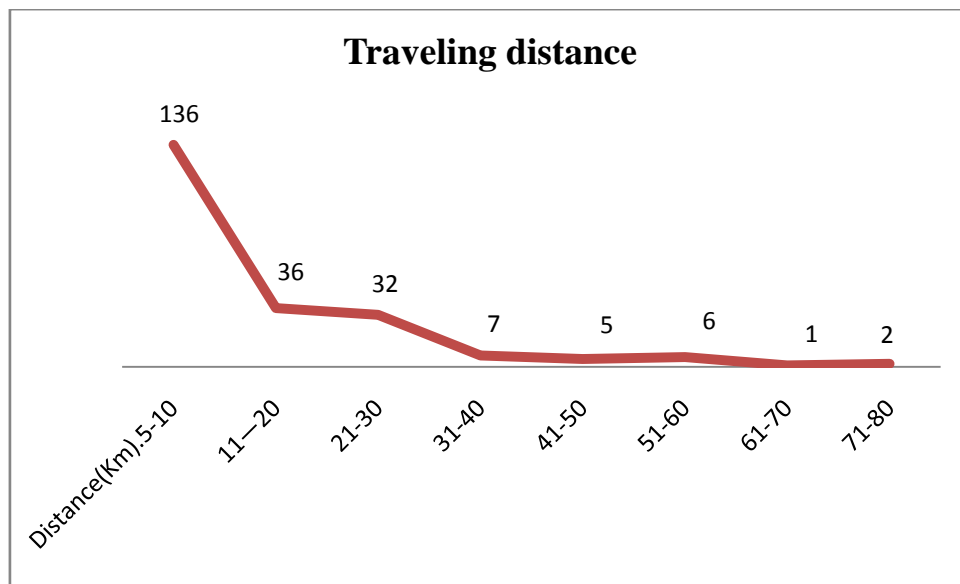
Above figure shows that 77% road made by pitch, 13% made by soil and 10% made by brick.

Table 11: Characteristic of Transportation used by participants

Vehicle used for Transportation	Frequency	%
(Multiple response)		
Bus	67	29.8
Auto	100	44.4
Mahindra	25	11.1
Rickshaw	103	45.8
Need crossing river		
Yes	19	8.4
No	206	91.6
Vehicle used for crossing river		
Boat	12	63.2
Lunch	06	31.6
Speed boat	1	5.3
Need crossing bamboo made bridge		
Yes	12	5.3
No	213	94.7

Above table show that for transportation 45.8% risk used, 44.4% auto used, 29.8% used bus and rest of the percentage Mahindra was used. During transportation 91.6% required crossing the river and 63.2% boat was used for crossing the river. Only five percentages required crossing the bamboo bridge during transportation.

Figure10: Traveling distance between the residence and PSOSK



Above this graph showed that the participants in this study lived in different distance from the PSOSK .The minimum distance was .5 km and maximum distance was 72 km and mean distance was 72 km. About 60.4% of participants had travelling within .5 to 10 km each day for receiving therapy from the center

Table 12: Traveling time, waiting time and cost required for receiving services.

Waiting time for receiving service (minutes.)			
Range	Frequency	%	Mean ± SD
0-15	60	26.7	
16-30	100	44.4	
31-45	26	11.6	
46-60	12	5.3	28.63±24.19
61-75	12	5.3	
76-90	09	4.0	
91-180	06	2.7	

Time Required for reaching to the center (minutes).			Traveling Cost for reaching to the center (Taka).		
Time Range	Frequency	%	Time Range	Frequency	%
1-30	104	46.2	1-75	132	58.7
31-60	71	31.6	76-150	62	27.6
61-90	23	10.2	151-225	16	7.1
91-120	20	8.9	226-300	11	4.9
121-150	4	1.8	301-375	---	---
151-180	2	.9	376-450	3	1.3
181- 210	1	.4	451-525	1	.4

Almost every participant has to wait for some time to get treatment, maximum waiting time was 180 minutes and mean waiting time was 28.63±24.19 minutes. 44.4% of participants had to wait in the reception for 16-30 minutes. As the participants traveling from different distance they had required dissimilar amount of time for reaching to the center, result shows that minimal amount of time 10 minutes and maximum 210 minutes were required for reaching to the center, Maximum (46.2%) of participants required 10-30 minutes, 31.6% required 31-60 minutes and rest of the percentage required 61-210 minutes for reaching to the centers. As the participants came from different distances, the usual cost of their travel expenses was differed. Minimum travelling cost was 10 taka and maximum cost was 500 taka, the mean traveling cost was 87.98±78.95 taka. 58.7% of participant daily expensed within 10-75 taka and 27.6% of participant daily expensed within 76-150 taka. In addition to all,

Figure11: Characteristics of changing the Vehicle of the participants

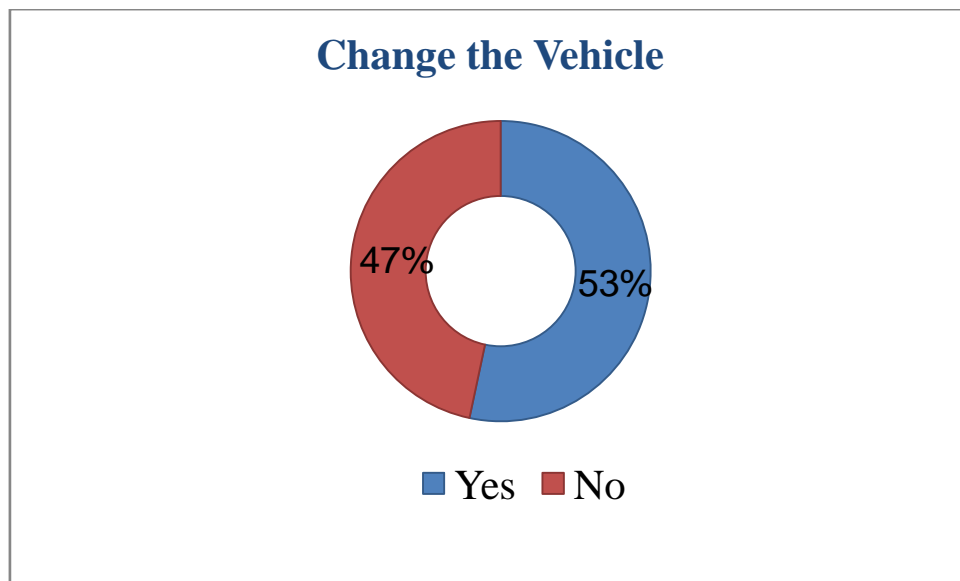
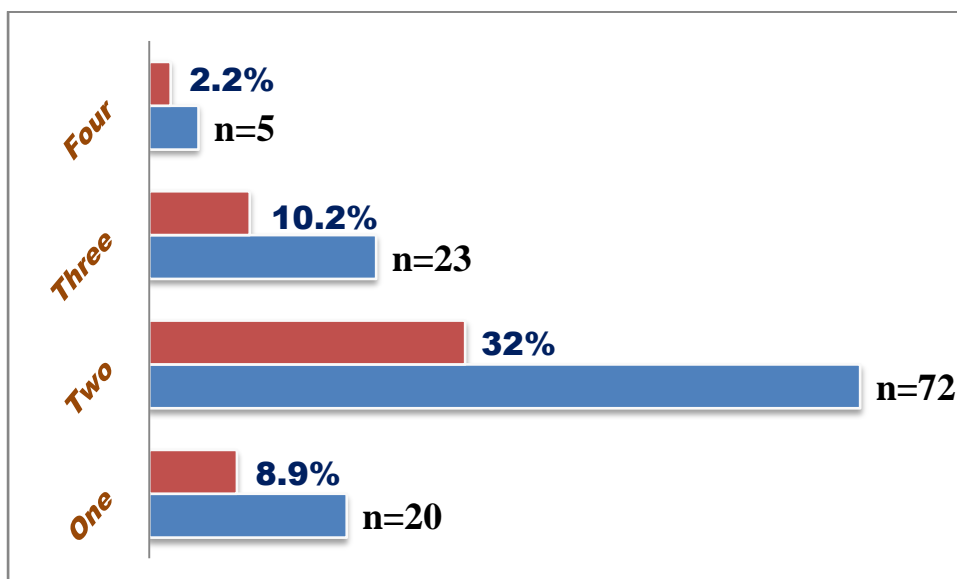


Figure shows, 53% of caregiver required changing the vehicle during transportation.

Figure 12: How many times change the vehicle



Above figure shows that among the 53% who's required changing the vehicle, 32% changed the vehicle two times for one way of departure and 10.2% changed the vehicle for three times in one way of departure, 8.9% and 2.2% required three and four times changing the vehicle respectively.

Table 13: Characteristics of problem facing participants during changed the vehicle.

Variables	Values	Frequency	%
Problem facing during changing the vehicle	Yes	127	56.4
	No	98	43.6
What were the Problems?	Raising on vehicle	31	13.8
	Limited seat capacity	4	1.8
	Disagree to ride	9	4.0
	Disagree to carry	10	4.4
	Problem carrying by womb	73	32.4

Table showed that 56.4% of caregiver facing problem during changing the vehicle, among them 32.4% reported that they had facing severe problem during carrying the child by womb, 13.8% facing problem during raising on the vehicle, 4.4% disagree to carry, 4% child himself disagree to ride on vehicle and 1.8% had limited seat capacity.

Socio-Cultural Characteristics of the participants

Table 14: Socio-cultural information of parents (According to the attendance perception)

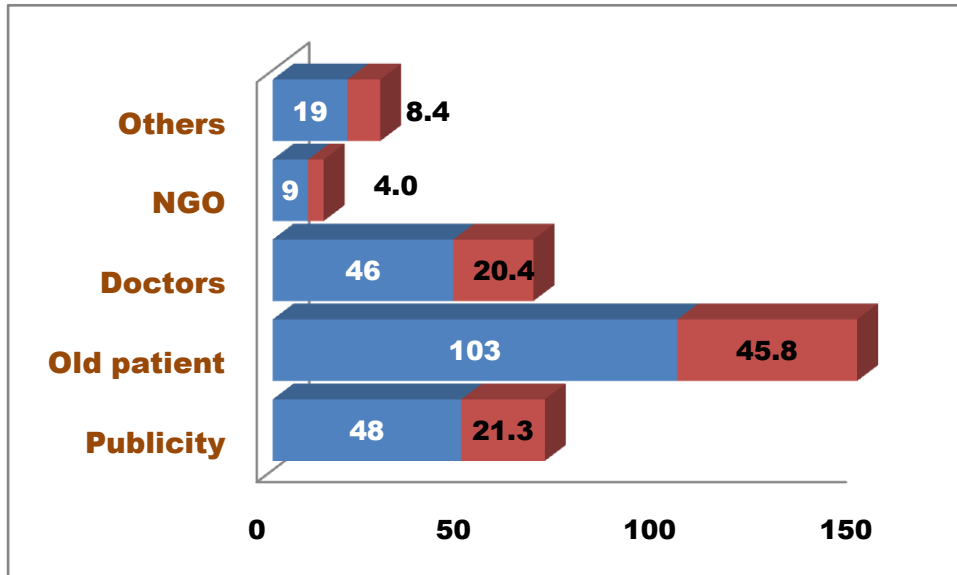
Variables	Frequency	%	Frequency	%
Father attitude towards CP child			Neighborhood view with CP	
Strong Positive	59	26.3	29	12.9
Positive	133	59.4	142	63.1
Negative	03	1.3	09	4.0
Strongly negative	29	12.9	45	20
Family member help to take care			Other child meet & play	
Yes	49	73.1	152	67.6
No	18	26.9	73	32.4
Family member interrupts for receiving PT treatment			Who interrupt for receiving PT treatment	
Yes	18	8.0	Father =11(61.1), GF=1(5.6)	
No	207	92.0	GM+GF=4(22.3),F+GM+O=2(11)	

Here, GM-grandmother, GF-grandfather, F-father, O-other

Above table showed 59.4% of father shows positive attitude towards their child and 63.1% of neighbor viewed the CP child positively and 14.2% father showed negative attitude for receiving treatment. There are 67 number of families were conjugal among them 26.9% cases others family member didn't help to take care the disable child. 67.6% of other child of the family regularly meet and play with the disable child and 32.4% didn't play and meet with the CP child. Only 8% of family members interrupted for receiving Physiotherapy treatment among them 61.1% interruption was provided by father and 16.7% provided by grandmother.

Characteristics about the Information of the Institute

Figure13: Mode of Publicity



Bar Chart

According to above chart 45.8% of caregiver first introduce with the PSOSK by old patients, 21.3% known by publicity, 20.4% referred by another doctor.

Table 15: Service related information about the Protibondhi seba-o-sahajjo kendro (14 Kendro at different district of Bangladesh)

Characteristic	Values	Frequency	%
Therapy providing time	1-20	58	25.8
	21-40	126	56.0
	41-60	40	17.8
	101-120	1	0.4
Embarrassing situation in Reception	Yes	06	2.7
	No	219	97.3
Name of the embarrassing situation	Absent photo& birth certificate.	03	50
	Prolong waiting for registration	03	50
Problem facing during physiotherapy treatment	Yes	19	8.4
	No	206	91.6
Name of the Problems	Soft tissue injury & pain.	06	2.7
	Fear & Crying.	08	3.6
	Epilepsy.	03	1.3
	Fever +Seizure.	02	0.9
Spent money for receiving PT treatment	Yes	08	3.6
	No	217	96.4
Providing PT regularly and therapist behaved cordially	Yes	174	77.3
	No	51	22.7
Physiotherapist providing PT treatment carefully	Yes	201	89.3
	No	24	10.7
Therapy assistant assist during PT Treatment	Yes	198	88
	No	27	12

This table shows that maximum 56% of participants received therapy more than twenty minutes to forty minutes and above this duration only 18.2% received therapy from the center. In this study result shows, 2.7% of caregiver facing embracing situation in reception and they reported that there was no major problem they encountered in reception, only face prolong waiting time and forgotten carrying photo and birth certificate for registration. 8.4% of caregiver reported that they had facing problem during treatment such as child crying, minor soft tissue injury with pain and epilepsy. 3.6% of caregiver noticed that they spent money for receiving treatment at PSOSK, 77.3% reported that physiotherapist providing services regularly and showed polite behavior with them. 89.3% of caregiver reported therapist providing physiotherapy treatment carefully and 88% reported that therapy assistant assist during received treatment.

Table 16: Condition changed after receiving the therapy services from the PSOSK

Variable	Frequency	%
Yes	150	66.7%
No	75	33.3%

This table shows that about 66.7% of CP child condition was changed after treatment

Figure14: Information about the services delivered to the participants by the PSOSK.

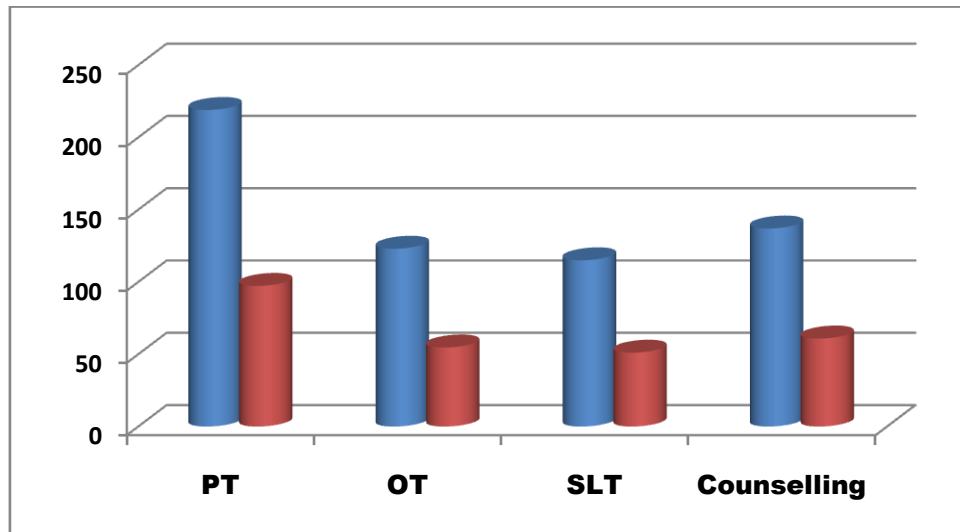
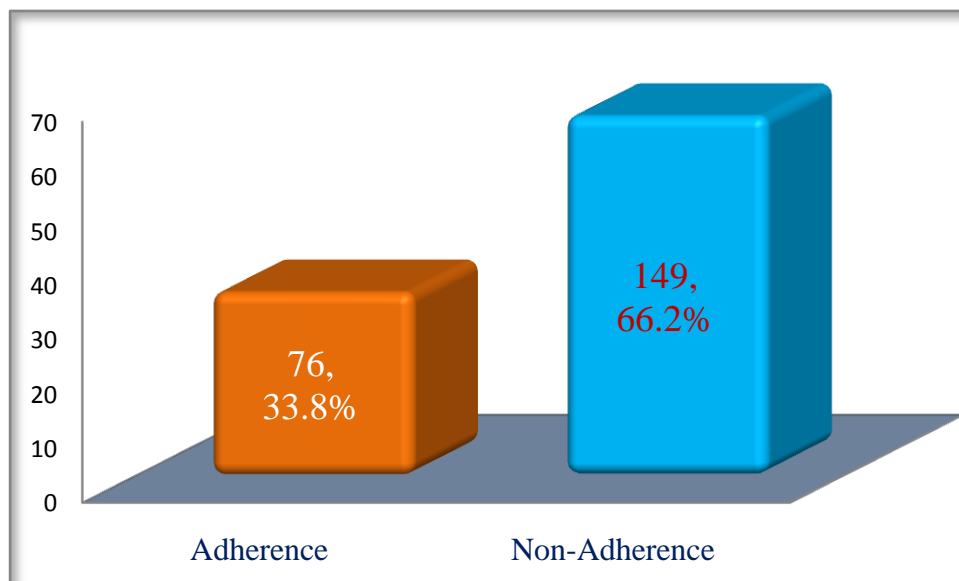


Figure shows that 97.3% patient received Physiotherapy service, 54.7% received occupational therapy service, 51.1% received Speech and language therapy and 60.9% received counseling service provide by consultant physiotherapist.

Figure15: Rate of Adherence (Received treatment at least 70% of prescribed session).



Above figure show that Among the 225 CP child only 33.8% maintain adherence and 66.2% was non-adherence.

Table17: Association between socio-demographic characteristic of CP children and adherence

Variables	ADHERENCE		df	x²	P-Value
	YES N= 76 (33.8%)	NO N=149 (66.2%)			
Age of CP children					
12-60 months	54, (24%)	108, (48%)	1	.51	.821
>60 months	22, (9.78%)	41, (18.2%)			
Gender of CP					
Male	35(15.6)	87(38.7)	1	3.086	.079
Female	41(18.2)	62(27.6)			
Siblings					
No sibling	42(18.7)	52(23.1)	1	8.580	.003**
Siblings	34(15.1)	97(43.1)			
Types of CP					
Monoplegic	13(5.8)	13(5.8)			
Hemiplegic	21(9.3)	39(17.3)	3	4.570	.206
Quadriplegic	32(14.2)	67(29.8)			
Paraplegic	10(4.4)	30(13.3)			
Other disability					
Present	31(13.8)	71(31.5)	1	.956	.328
Absent	45(20.0)	78(34.7)			
Other disease					
Present	21(9.3)	41(18.2)	1	.000	.985
Absent	55(24.4)	108(48.0)			
Assistive device used					
Yes	38(16.9)	65(28.9)	1	.824	.364
No	38(16.9)	84(37.3)			
Doctor consultancy					
Yes	67(29.8)	107(47.6)	1	7.671	.006**
No	09(4.0)	42(18.7)			
Medicine Used					
Yes	54(24.0)	96(42.7)	1	.993	.319
No	22(9.8)	53(23.6)			
Physiotherapy received from anywhere beside PSOSK					
Yes	06(2.7)	18(8.0)	1	.925	.336
No	70(31.1)	131(58.2)			
Disability allowance					
Yes	10(4.4)	21(9.3)	1	.037	.847
No	66(29.3)	128(56.9)			

Above table show the association between the adherence and different characteristics of the CP children, among these characteristics significant relationship observe in numbers of siblings (p=.003) and doctors consultancy (p=.006), In this study result

showed that 58.2% of CP child had siblings, among them 43.1% showed non-adherence. 77.4% of CP child consult with doctor among them 47.6% showed non-adherence with treatment, on the other hand 22.7% of CP child did not consult with doctors and among these percentage comparatively higher 18.7% of participant showed non-adherence with treatment.

Table18: Association between the socio-demographic characteristics of parents and Adherence

Variables	ADHERENCE		df	x2	P-Value
	YES 76 (33.8%)	NO 149 (66.2%)			
Mother's family status					
Continue relationship	76(33.8)	145(64.5)	2	2.007	.354
Divorced	0(0.0)	03(1.3)			
Widower	0(0.0)	01(0.4)			
Age of the mother					
Upto30 years	56(24.9)	102(45.3)	1	.658	.417
Above 30 years	20(8.9)	47(20.9)			
Mother's education					
Below SSC	39(17.3)	111(49.3)	1	12.17	.000**
Above SSC	37(16.4)	38(16.9)			
Mother's occupation					
Housewife	73(32.4)	143(63.6)	1	.001	.977
Others	03(1.3)	06(2.6)			
Mother illness					
Yes	18(8.0)	18(8.0)	1	5.042	.025*
No	58(25.8)	131(58.2)			
Father Education (One father was left due to dead)					
Below SSC	36(16.0)	104(46.4)	1	11.237	.001**
Above SSC	40(17.8)	44(19.6)			
Father's occupation					
Farmer, unemployed,Driver, labourer, Tailor	55(24.6)	106(47.3)	1	.014	.906
Service,work abroad, Business	21(9.4)	42(18.8)			
Father's monthly income (Taka). (3missing due to 2-unempolyed,1-Dead)					
Below 15000	51(22.8)	106(47.3)	1	.174	.677
Above 15000	23(10.3)	42(18.7)			

Above table shows that level of parent's education and father's attitude towards the CP child who included for this study has significant association for adherence on physiotherapy treatment at PSOSK. Result also showed that mother's illness has also significant relation with adherence with Physiotherapy treatment.

Table19: Association between the socio-demographic characteristics of family and Adherence

Variables	ADHERENCE		Df	x ²	P-Value
	YES N=76 (33.8%)	NO N=149 (66.2%)			
Family Type					
Single family	54(24.0)	104(46.2)	1	.038	.846
Joint family	22(9.8)	45(20.0)			
Family members					
Three	28(12.4)	36(16.0)	1	3.976	.046 *
>Three	48(21.3)	113(50.2)			
Earning family member					
One person	59(26.2)	116(51.6)	1	.001	.970
>One person	17(7.6)	33(14.7)			
Family savings					
Yes	30(13.3)	30(13.3)	1	9.626	.002 **
No	46(20.4)	119(52.9)			
Family Monthly incomes (Taka)					
Upto15000 taka	46(20.4)	95(42.2)	1	.225	.635
Above 15000	30(13.3)	54(24.0)			
Family monthly expenditures (Taka)					
Upto15000 taka	53(23.6)	113(50.2)	1	.969	.325
Above 15000taka	23(10.2)	36(16.0)			
Expenditure for medicine purchasing (Taka)					
Upto1000 taka	30(13.3)	72(32.0)	1	1.590	.207
Above 1000taka	46(20.4)	77(34.2)			
Expenditure for physiotherapy treatment (Taka)					
Upto1000 taka	50(22.2)	124(55.1)	1	8.725	.003 **
Above 1000taka	26(11.6)	25(11.1)			

The result of the socio-demographic characteristics of family showed that those families have more than three members had maximum 50.2% of non-adherence. Result showed that 73.3% of families had no savings that indicate they lived in low economic condition and the rate of non-adherence was 52.9%. Result also showed

that about 77.3% families expend up to 1000 taka of their family income for PT treatment and maximum 55.1% of them showed non-adherence, on the other hand 22.7% families expend above one thousands taka of their family income and among them 11.1% showed non-adherence on treatment. The chi-square test showed that there is significant association between the number of family members, family savings and family expenditure for physiotherapy treatment of the CP child (i. e P <0.05).

Table20: Association between Socio-demographic characteristics of residence, Transportation and adherence

Variables	<u>ADHERENCE</u>		Df	x ²	P-Value
	YES N=76 (33.8%)	NO N=149 (66.2%)			
Location of the residence					
Village	45(20.0)	116(51.6)			
Upazila	09(4.0)	15(6.7)	2	10.647	.005**
District	22(9.8)	18(8.0)			
Distance from PSOSK to residence of the participants					
Upto10000meters	57(25.3)	79(35.1)	1	10.170	.001**
Above10000meters	19(8.4)	70(31.1)			
Time required for reaching PSOSK					
Up to30 min	45(20.0)	59(26.2)	1	7.789	.005**
Above30 min	31(13.8)	90(40.0)			
Travelling cost forreaching PSOSK					
Up to 50 Taka	38(16.9)	57(25.3)	1	2.846	.092
Above 50Taka	38(16.9)	92(40.9)			
Changing the vehicle					
Yes	34(15.1)	86(38.2)	1	3.408	.065
No	42(18.70)	63(28.0)			

Above table showed that 71.6% of participants lived in village, among them maximum 51.6% of participants was non-adherence. As nearly two third of the participants lived in village so traveling distance from the residence to the PSOSK, in this study 60.4% of participants required travel up to 10 Km, among them 35.1%

showed non-adherence and rest of 39.5% participants required traveling above 10 km, among them 31.1% showed non-adherence. Traveling time is also important variable for adherence, in this study 46.2% of participants required up to 30minutes of traveling to reach the PSOSK and among them 26.2% was non-adherence. On the other hand 53.8% of participants were traveled above 30minutes for reaching PSOSK and among those 40% showed non-adherence. Chi-square test showed significant association with the characteristics of location of the residence, distance in between residence and PSOSK, Traveling times and adherence but there was no relation in traveling coast, changing the vehicle and adherence.

Table21: Association between Socio-cultural characteristics of the participants and adherence

Variables	ADHERENCE		Df	x ²	P-Value
	YES N=76 (33.8%)	NO N=149 (66.2%)			
Father's attitude towards CP child					
Positive	73(32.4)	119(52.9)	1	10.040	.002**
Negative	03(1.3)	29(12.9)			
Family member interrupt for physiotherapy treatment					
Yes	03(1.3)	15(6.7)	1	2.561	.110
No	73(32.4)	134(59.6)			
Neighborhood view to the CP child					
Positive	66(29.3)	106(47.1)	1	6.890	.009**
Negative	10(4.4)	43(19.1)			
Family member interrupt to received PT treatment					
Yes	3(1.3)	15(6.7)	1	2.561	.110
No	73(32.4)	134(59.6)			

Above table showed that Father Attitude and neighborhood view towards the CP child had significant association for adherence. Study result showed that among the fathers of 224 CP child 192 fathers showed positive attitude and their adherence rate was high. On the other hand 32 father showed negative attitude, among them 29 CP child showed non-adherence. Above table also showed that 23.5% of neighbor showed negative view towards the CP child among them 19.1% was non-adherence.

Table22: Association between socio-demographic characteristic of caregivers and adherence

Variables	ADHERENCE		Df	x2	P-Value
	YES N=76 (33.8%)	NO N=149 (66.2%)			
Who was the caregiver?					
Mother	71(31.6)	135(60.0)	1	.517	.472
Others	05(2.2)	14(6.2)			
Caregiver level of awareness about Physiotherapy					
No knowledge	22(9.8)	78(34.7)	1	11.163	.001**
Knowledgeable	54(24.0)	71(31.6)			
Caregiver spent time at home exercise					
Yes	49(21.8)	61(27.1)	1	11.155	.001**
No	27(12.0)	88(39.1)			

(* = Level of significant, * P <.05)

Above this table the chi-square test showed that there is no significant association between the adherence and the nature of the caregiver but there was strong association observed between the caregiver knowledge about physiotherapy and adherence (P <.05), there are 44.5% of caregiver had no knowledge about physiotherapy among them 34.7% were non-adhered with treatment and 55.6% had some knowledge about what treatment was provided to their child, among them 24% adhered with treatment. 51.1% of participant did not spent time at home for exercise, among them 39.1% were non-adhered with treatment and 48.9% of participants spent time at home for exercise, also among them 27.1% were non-adhered with treatment.

Table23: Association between characteristics of services provided by the institute and adherence.

Variables	ADHERENCE		Df	x ²	P-Value
	YES N=76 (33.8%)	NO N=149 (66.2%)			
Waiting time in reception					
Upto30 minutes	55(24.4)	118(52.4)	1	1.320	.251
Above30minutes	21(9.3)	31(13.8)			
Therapy providing times					
< 30 minutes	35(15.6)	105(46.6)	1	12.765	.000**
>30 minutes	41(18.2)	44(19.6)			
Providing therapy regularly as per prescription					
Yes	66(29.3)	108(48.0)	1	5.920	.015*
No	10(4.4)	41(18.2)			
Physiotherapist's attitude towards the caregiver of CP child					
Positive	74(32.9)	133(59.1)	1	4.494	.034*
Negative	02(0.8)	16(7.1)			
Required providing money for receiving treatment at reception					
Yes	05(2.2)	03(1.3)	1	3.059	.080
No	71(31.6)	146(64.9)			
Therapy assistant assist during receiving treatment					
Yes	71(31.60)	127(56.4)	1	3.194	.074
No	05(2.2)	22(9.8)			
Condition of the CP child changed after receiving treatment					
Yes	71(31.6)	79(35.1)	1	36.967	.000***
No	05(2.2)	70(31.1)			

In above table the chi-square test showed that therapy providing time and mode of therapy providing had significant association ($P < .05$). 62.2% of participants received treatment less than 30 minutes among them maximum 46.5% were non-adhered with treatment. In this study 77.3% of cases therapy was provided regularly, among them 48% were non-adhered and 22.6% of cases therapy was provided irregularly, among them 18.2% were non-adhered with treatment. Result above this table also showed that there is significant relationship with the physiotherapist attitude towards the

caregiver and adherence and also how much the conditions changed after receiving the physiotherapy. Result showed that 33.3% of cases the condition of the CP child was unchanged after receiving the treatment and among them 31.1% showed non-adherence. On the other hand 66.7% cases condition change after receiving treatment and among them 31.6% showed adherence with treatment.

The result of this study shows that the mean age of the CP child was 49.90 ± 29.50 months, which was comparable with a study in India (2018) in about the clinical profile of cerebral palsy in which, overall mean age was 48.84 months. The maximum number 56(24.9%) of CP child presentation were in the age group of 12-24 months in both sex and this study 71.9% of child age within five years, This result was in similar with the study of Makwana, et al. (2017) a clinical epidemiological study of cerebral palsy in western Rajasthan in which maximum number of presentation were in the age group of 2-5 years that was 40%. In this study 54.2% of CP child was male. Singhi et al 2002, conduct a study in 1000 CP children and reported that 67.5% were male, another study conducted by Reddy, et al, 2018, on 100 CP patients and reported that 66% was male. The chi-square test in this study showed that there was no significant association between the age and sex of the CP child and the adherence.

This study showed that 90.2% of CP children didn't go to school and 93.8% were dependent on others. In this study a large number of child did not go to school, this may be due to mean age of children in this study was 4.16 years that mean most of the child remains in preschool-aged and another study reported that CP children who have greater physical disability they did not go to school (Mohammed, Ali, and Mustafa, 2016). Children who go to school had a better quality of life if CP child going to School they learned how making new relations and friendships with other children and gain experience in the different social and personal contexts. Some studies showed that physical disability was associated with decreased school enrollment. Even though we cannot overlook the effect of physical disability, many children with Cerebral Palsy have a normal IQ level and they can communicate with other children by speech or other ways (Mohammed et al., 2016). In this study, only 27.6% of CP child was suffering from a different disease such as pneumonia, asthma, heart disease and general illness among this 12 % was suffering from pneumonia and second most suffering from a seizure. This present study showed that 45.3% of the child had other disability and among them, 28.9% were speech problems. 16.9% were an intellectual disability, 5.3% were hearing and 4% was a vision problem. Another study was conducted by Andersen, et al. (2008). On Cerebral palsy in Norway: prevalence, subtypes and severity and found that cerebral palsy child had similar different types of

disability such as 5% of impaired vision and 4% of hearing impairment, 31% of mental retardation, 28% of active epilepsy, and also 28% of speech problem. Sharma et al, (1999) on their study on cerebral palsy reported speech defects were 53.5%. Another a clinical-epidemiological study of cerebral palsy in western Rajasthan conducted by Makwana et al. (2017) reported that 47.82%, was epilepsy, 23.91% patients had an abnormality of speech, 15.22%, and 2.17% had a loss of hearing, and 2.17% had a vision problem

The chi-square test showed that there was no significant association between the adherence and comorbidity of the CP children with taking medicine, used an assistive device and received similar physiotherapy services from private organizations anywhere besides the PSOSK. In this study, only 27.6% of CP child was suffering from a different disease such as pneumonia, asthma, heart disease and general illness among this 12 % was suffering from pneumonia and second most suffering from a seizure.

In this study, 41.8% of the family had only one baby and 39.1% family had other children's and also 16% family had another two children's. This study showed that the numbers of siblings had a significant association with adherence ($P < 0.003$). In this study, statistical analysis showed that 58.2% of CP children had siblings, among them 43.1% showed non-adherence. Those families have more than one child traveling to and from therapy appointment as per the schedule and their need for childcare assistance, sometimes required schooling the aged siblings that become great barriers for this caregiver for maintaining adherence to treatment (Cada & O'Shea, 2008).

In this present study, 77% of CP child required doctors' consultation in various fields of specialists, among them, 35.6% of the neurologist's consultation was accepted and 25.8% accepted pediatric consultation. 66.7%. The result of this study showed a significant association between the doctor's consultation and adherence ($P < 0.006$). There are several doctors and specialists that will likely be involved in the cerebral palsy diagnosis, these medical professionals include, Pediatricians, Developmental-behavioral specialists, Geneticists, Neurologists, Physical, occupational and speech therapists, (<https://www.Cerebralpalsyguide.com/cerebralpalsy/diagnosis/cerebralpalsy-doctors-and-specialists/>). . In this study most presenting, 44% of a quadriplegic and 26.7% of hemiplegic or diplegic CP. Rests of percentage (29.3%) were suffering either Monoplegic or paraplegic type of cerebral palsy. However, the distribution of

the subtypes of quadriplegic cerebral palsy is similar high in a study at Gowda et al. (2015) reported that 71.6% of spastic quadriplegia and 16% of spastic diplegia. In contrast European studies about CP reporting that the higher rate of 40.9% - 54.9% spastic diplegic CP and 18-20.8% of quadriplegic CP (Johnson, 2002).

In this study, 66.7% of CP children took medicine according to an expert doctor's advice. Nearly 23% of CP children received physiotherapy service somewhere ago and 10.7% of the child received PT service from outside of PSOSK. In this study, among the 225 CP child, only 103 (45.8%) of CP child required an assistive device for ambulation and their needs of which them 17.8% CP child used Walker, 13.3 % have used a wheelchair and also 12.9% used corner chair. Assistive devices are used for compensating the impairment of the CP child with gain maximum physical independence and increased functional ability, one reviewed study suggests that children's who have different varieties of disabilities assistive devices can provide profound beneficial effect on mitigating the impairment and helps in improving functional independence (Henderson, Skelton, and Rosenbaum, 2008). The study result showed that there was no significant association between the users of assistive devices and adherence.

Among the 225 CP children, only 76 (33.8%) maintain adherence and 149 (66.2%) was non-adherence. Similarly, a classical study done by Usman, et al. (2017) shows that 28(46.7%) of the participant was adherence and 32 (53.3%) was non-adherence. According to the WHO, there are five factors influencing adherence thus include social and economic factors, health system-related factors, therapy-related factors, disease-related factors, and patient-related factors (WHO, 2003).

The result shows that most of the principal caregivers are the biological mother (91.6%) of the CP child and their non-adherence rate was high (60.0%). The chi-square test result in this study showed that there was no significant relationship between the nature of the caregiver and adherence. The study result showed that 221 mothers continued their relationship with their husband among them maximum 64.5% did not maintain adherence with treatment. In this study, three mothers were divorced and one mother was widower, all of them were non-adhered with treatment, similar findings were observed in a study where the high rate of non-adherence was recorded among the divorced caregiver (Usman et al, 2017). Although all divorced and widower caregivers and maximum numbers 64.5% of caregivers who continued their relationship with their husbands have non adhered with treatment the chi-square test

result showed there was no significant association between mother family status and adherence. This result contrasted with the result of a similar study conducted by Usman et al (2017), on their study result found that a high rate of adherence observed in married caregivers.

This study result shows, 70.2% of the family was Nuclear and 29.8% was a joint family. Most of the families, the family member was 3-5 that compromises 74.2% and 16.4% compromise 6-8 family members. 77.8% of the family was a single earning member and 22.3% were two or more earning family members. Statistical test results showed that there was no significant association between the nature of family, number of earning member of the family and adherence. The study result about parent's information shows that 70.2% of mothers age were within 30 years, among them maximum 45.3% showed non-adherence with treatment and 29.8% of mothers age was above 30 years, among them 20.9% were not adhered with treatment, although high rate of non-adherence was observed in both age group of mother statistically there was no significant association between the age of mother and adherence. These study results were similar to the result of the study on factors affecting adherence to physiotherapy appointment for caregivers of children with CP in Kano metropolis (Usman et al., 2017). A study conducted in Nigeria on the socio-economic correlation of relapse patients admitted in the hospital, from this study result showed that maximum numbers of non-attendance were found to be aged below thirty years (Gbiri, Badru, Ladapo, &Gbiri, 2011). Another study conducted on socio-economic and demographic factors in patient non-attendance and the result showed that the rate of non-attendance was minimum in an advanced age group of participants (Beauchant, & Jones,1997).

In this study 82.7% of mother's maximum education level was SSC but the maximum value showed that 22.7% of mothers stop their education at the primary level. A similar result on mother education was found in a study conducted by (Haque et al., 2018) on antenatal risk factors of children with cerebral play and showed that mother average means age was 26.5 years and 46% completed primary education and 38% completed secondary education. 81.3% of father's maximum education level was SSC, but the maximum value was 27.1% of fathers stopped their education at the high school level. This study result shows that non-adherence rates were more than two times greater than adherence in parents education level below SSC, on the other hand, parents whose education level were above SSC their rate of adherence nearly 50%

and the statistical analysis of chi-square test shows that parents level of education had a strong association with the adherence ($P < 0.05$). This result is similar to the study result conducted in the Kano metropolis who found that the education level of caregivers has a strong relationship with adherence to PT appointment (Usman et al., 2017). This finding is also similar to the study on look at non-attendance at outpatient appointments were found that 55% of patients did not attend their appointment and their education level was primary or less. (Jones & Forde, 2009).

According to this study, the caregiver's knowledge about CP shows a strong relationship with the adherence ($P < 0.05$). In this study, 44.5% of participants had no knowledge about CP and among them, 34.7% of the participant showed non-adherence of their appointment of physiotherapy treatment, besides this 55.6% had knowledge about CP and result shows that 31.6% of participants were adherence with PT appointment. Another study was conducted on HIV related knowledge and adherence to antiretroviral therapy in NEW YORK, USA, study result showed that all participants who fulfilled their treatment regimen had strong knowledge about HIV (winter, Auntry, Boyle & Yeargin-Assopp, 2002). This study result also supported by the result of similar study where the level of education had significant association with adherence (Usman et al., 2017) The study validated significant association between adherence to treatment, which included transport and traveling distance, transport costs, and knowledge of the disease, but reported positive interaction between the client and also less significant association was observed with waiting time in reception

Consistent and correct home exercise programs and the caregiver's participation are important for the rehabilitation of disabled children. Numerous factors affect the adherence to home programs of disabled children such as caregiver's age, marital status, socioeconomic status, and family size,(Basaran et al, 2014). In this study, the result showed that 51.1% of participants did not spend time at home for exercise, among them 39.1% were non-adhered with treatment and 48.9% of participants spent time at home for exercise, also among them 27.1% were non-adhered with treatment. The chi-square test in this study showed that there was a significant association between the home exercise program and adherence (P -value 0.001). Non-adherence to home exercise programs is documented as one of the factors affecting treatment outcomes (Rone-Adams, Stern, & Walker, 2004).

On father occupation observation in this study show that 27.1% was a businessman and 17.8% was farmer, two fathers had no income and one father was dead. On the other hand, 96% of the mother was a housewife. 92.4% of fathers and 84% of mothers reported that they had no illness. Only 9.3% of mothers reported they had a general illness. Statistical analysis of mother illness showed that there was a significant association in between mother illness and adherence on treatment appointment, almost all caregiver's in this study was mother, so mother illness provides a greater effect on adherence of child in the treatment

The result in this study showed that 46.7% of fathers' income was within one to ten thousand and 84.9% of the father's income was within twenty thousand. The minimum income of father was fifteen hundred and the maximum income was sixty thousand. The mean income of the father was 14127 ± 9962 . Most of the mothers were a housewife and they did not have any income. Only nine mothers had income and their mean income was 22444 ± 12390 . In family total income observation, 37.8% was within four to ten thousand and 24.9% was within eleven to fifteen thousand. 49.7% of family monthly expenditure limited within one to ten thousand and 39.6% was within eleven to twenty thousand. The mean monthly family income was 17993 ± 15762 and the mean family expenditure was 14127 ± 9962 . Monthly 26.7% of families expend their income due to medicine purchasing within one hundred to one thousand and medicine purchasing mean expenditure was 2063 ± 1343

Some families expend their income due to physiotherapy treatment, 77.3% of family expend within fifty to one thousand taka and mean expenditure for PT was 1860 ± 2008 taka. 22.7% of family expends money above one thousand takas and their non-adherence rate nearly 50%. The chi-square test for physiotherapy treatment expenditure showed a significant association with adherence. Although PSOSK provided physiotherapy services for the CP children with free of cost rural people required high traveling costs due to long distance, so it becomes a major barrier for a poor family in Bangladesh. This constraint also found in India the researcher found that transportation to the CP child to physiotherapy center involves considerable expenses for a poor family and thus became major barriers even though services provided free of the cost (Sinha & Sharma, 2017).

In this study, there is no significant relationship between the age of mother, mother's occupation, father occupation, and adherence. This is in contrast with the result of a study conducted by Usman, et al. (2017) thus founded that the maximum non-

adherence group age range was 40-60 years and the rates were ten among fifteen participants. Therefore in this study shows, the maximum number of adherence 24.9% and non-adherence 45.3% aged was up to 30 years and above 30 years 29.8% of mother participants among them, non-adherence was 20.9%, in spite of a large number of non-adherence in both aged group the Chi-square test showed no significant result the p-value is .417 There are some contradictory findings showed in indifferent literature to explore the age and gender of those whose don't regularly attend the PT appointment. The result in this study showed that 33.30% received services from the center regularly and 44% of CP child received services irregularly, This is in Similar result was found in a study by which 28(46.7%) of the participants compliance with their appointments, while 32(53.3%) of participants did not comply with appointments (Usman et al, 2017).

The statistical analysis of the chi-square test showed that therapy providing time had a significant association between adherence ($P < .05$). In this study 62.2% of participants received treatment less than 30 minutes among them a maximum 46.5% were non-adhered with treatment and 37.8% received treatment more than 30 minutes and their adherence and non-adherence rate nearly equal. so statistically it is proved that prolonged service providing Caregivers over satisfied and be confident with their therapist resulting they adhered with treatment for prolong time In this study 77.3% of cases therapy was provided regularly, among them 48% were non-adhered and 22.6% of cases therapy was provided irregularly, among them 18.2% were non-adhered with treatment. The result also showed that there is a significant relationship with the physiotherapist attitude towards the caregiver and adherence and also how much the conditions changed after receiving the physiotherapy. The result showed that 33.3% of cases the condition of the CP child was unchanged after receiving the treatment and among them, 31.1% showed non-adherence. On the other hand, 66.7% of cases condition change after receiving treatment and among them 31.6% showed adherence with treatment. Literature showed that longer duration of treatment period might influence the adherence of chronic ill patient with treatment for prolog period (Dhanireddy et al., 2005)

The summarization of the result in this study showed that various factors have a significant association with adherence and non-adherence of the cerebral palsy children who included in this study. There are strong association was observed in the

chi-square test of the socio-demographic characteristics of the CP children and their family such as numbers of siblings, required doctors consultation of the CP children, parents level of education and their awareness level of the disease and therapy, mother health condition and also family members and having any savings have a significant association with adherence. The accessibility of the service transportation facilities, duration of traveling and indirect cost of Physiotherapy services due to working hours lost by the caregivers and transportation cost also included thus have a major effect on treatment adherence of the CP children. Finally, the therapist attitudes to the CP children and caregiver and therapy-providing times have a significant effect on treatment adherence.

It is a universal truth that a hundred percentages accuracy is not possible in any research, for this circumstance some limitation exists in this study such as- therefore the wider cerebral palsy children are not reflected in this study. Time and resources were limited which had a great deal of impact on the study. If adequate time and resources were available then knowledge on this area could be extended and a better result can be obtained. The researcher could not collect the literature related to the topic. The researcher searched the libraries and the internet but the researcher does not find out the topic related enough literature to strongly support this study. Although the data provider was not known about the objective of the study, almost all data collectors aware of the objectives of the study, so there may be a chance to modify some data in favor of objectives. The researcher did not include all CP children who registered for treatment on the scheduled data collection period due to lack of contact number and unwillingness to participate in this study. Since the data has been collected from different district and Upazila, it would have been very difficult for the researcher to closely monitor the data collection procedure.

There are various factors have an association for adherence with physiotherapy appointment by caregivers of children with cerebral palsy. According to the socio-demographic result and statistical analysis of the different variables of this study; Various factors affecting the adherence for physiotherapy appointment by principal caregiver's of cerebral palsy child, such as socioeconomic status, number of siblings, doctors consultancy, parents education and mother illness, father's attitude towards the cerebral palsy children, occupations of the parents and level of education, caregiver knowledge about the disease and disability and exercise program at home, family members and family savings, expenditure for physiotherapy treatment have significant association between adherence and non-adherence. Majority of the participants lived in the rural area and the integrated disability service centers are located in the district town and some Upazila town, participants who lived in the rural area require traveling long distance for this reason they must expense huge amount of money and valuable working time so location of residence and traveling cost of time and money is the important constraint for adherence with treatment appointment. In this study majority of caregivers of the CP children are biological mother, that is why the positive attitude of the father towards the cerebral palsy child and also good cooperation with others family member is very important to maintain long term treatment adherence with the physiotherapy service. The integrated disability service center provided outpatient services only so it is out most important to the strong participation of the family member to effective rehabilitation of the CP children, for this reason, caregivers must be knowledgeable about their child disability and home exercise program. The principal caregiver must be awarded about cerebral palsy and causes of it. The caregiver's awareness program should be arranged to know what the rehabilitation program is for CP. Most of the caregiver's believed that CP is a permanent disorder and it is impossible to completely heal by rehabilitation

The findings of this study have provided the suggestion for the policymaker and service deliver, they need improving awareness among the caregivers of children with CP about their Child health conditions and which services are effective for improving the quality of life of them.

Finally, it is concluded that adherence to the caregiver of the cerebral palsy child with physiotherapy appointment is out most important for better management. In this study, it is suggested that the quality of life of the CP child is significantly changed by physiotherapy as well as rehabilitation. The results of the study will be useful in improving service delivery to cerebral palsy children at the physiotherapy outpatient service in the country. Also, the results will be useful in developing effective interventions aimed at enhancing the utilization of services and adherence to the treatment regimen at the center. The results can be used by the hospital management to identify gaps in the delivery of physiotherapy services among health providers in the hospital so that interventions are required to improve the health care delivery effectively and efficiently. Considering the results of this study, and the difficulties parents experienced in attending to all treatment appointment at the PSOSK, the study makes the following recommendations-

- a) There is a need for more funding from responsible ministries, donors and supporters to provide an adequate financial allocation to the rehabilitation sector to enable the introduction of outreach services for cerebral palsy patients.
- b) There is a need to decentralize services from district to Union health centers in the community that are accessible to most patients/caregivers. This can be implemented through outreach clinics in communities that are located far away from the district. This strategy would shorten the distance for parents, increase the accessibility of these services to the very poor families that are unable to meet transportation costs and would be an effective strategy of taking services nearer to the people.
- c) The researcher also recommends that more research involving both qualitative and quantitative approaches to be done on the same topic in Bangladesh.
- d) There is a need to increase the number of Physiotherapists so that it becomes easy to conduct outreach services in the community.

In this study, the author used a limited number of sample size that is not directly proportionate with the incidence of CP in Bangladesh. The author recommended that another study should be conducted with a large number of sample sizes with some qualitative part to determine barriers for regular treatment adherence, encountered by the caregivers in a different part of protibondhi seba o sahajjo kendro at Bangladesh.

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APPENDIXES

APPENDIX-A

Informed Consent Form

BHPI under Dhaka University

Code:

Date:...../...../.....

Name of the respondent.....

I am Md Rafiqul Islam, a student of M.Sc.PT program Bangladesh Health Professions Institute (BHPI) under medicine faculty of Dhaka University. As a course requirement I am doing a research on, “Factors influencing the utilization of physiotherapy services among the caregiver of children with cerebral palsy in the integrated disability service center (PSOSK).” of Bangladesh.

I am inviting you to participate in this research study.

I need some valuable information from you as a part of my academic purpose. Your co-operation will be highly appreciable. You can refuse to answer any questions or may leave any time you feel like. If your refuse or leave you will not face any problem.

All the information given by you will be kept confidential. Your identity will not be disclosed. Only study-related personnel will be allowed to see the information.

I would appreciate your co-operation. If you agree to join the study please sign at the space indicated below.

Investigator’s signature & Date

Volunteer’s signature & Date

Witness signature/Thumb impression & Date

CONSENT FORM (BENGALI)

Appendix-B

কোড :

তারিখ:

উত্তর দাতার নামঃ

আসসালামুআলাইকুম। আমি মোঃ রফিকুল ইসলাম বাংলাদেশ হেল্থ প্রফেসস ইন্সটিটিউট যাহাঢাকা বিশ্ববিদ্যালয়অদিভুক্ত এমপিটিথ্রোথ্রামের ছাত্র। আমি একটি গবেষণা কর্ম করছি যার শিরোনাম হল “বাংলাদেশের প্রতিবন্ধী সেবা ও সাহায্য কেন্দ্রে ফিজিওথেরাপি সেবা গ্রহন করতে সেরিব্রাল পলসি বাচ্চার অভিভাবকদের কোন কোন উপাদান গুলো প্রভাবিত করে ” আমি আপনাকে এই গবেষণায় অংশগ্রহণের আমন্ত্রণ জানাচ্ছি। আপনার কাছ থেকে কিছু তথ্য জানতে চাই। আপনাকে উক্ত গবেষণা কর্মে কিছু প্রশ্নের উত্তর দিতে হবে যা এই ফর্মে উল্লেখ আছে। আমি আপনাকে জানাতে চাই যে এটি একটি সম্পূর্ণরূপে একাডেমিক গবেষণাকর্ম এবং আপনার প্রদত্ত তথ্য সমূহ অন্য কোন উদ্দেশ্যে ব্যবহৃত হবে না। আপনার নাম প্রকাশনায় গোপন থাকবে।

এই গবেষণা কর্মে আপনার অংশগ্রহণ ঐচ্ছিক এবং গবেষণাকর্মের যে কোন সময় এতে অংশ নেয়া থেকে বিরত থাকতে পারবেন। ইন্টারভিউ চলাকালীন কোন নির্দিষ্ট প্রশ্নের উত্তর না দিতে চাইলে প্রশ্নের উত্তর না দেওয়ার অধিকার আপনি সংরক্ষণ করেন।

আমি আপনার সহযোগিতায় কৃতজ্ঞ হব। আপনি যদি গবেষণায় যোগ দিতে সম্মত হন, তবে নির্দিষ্ট স্থানে স্বাক্ষর করুন।

তথ্য গ্রহণকারীর স্বাক্ষর ও তারিখঃ.....

গবেষণায় অংশগ্রহণকারীর স্বাক্ষর ও তারিখঃ.....

গবেষকের স্বাক্ষর ও তারিখঃ.....

Date: 17.11.2018

The Chairman

Institute Review Board (IRB)

Bangladesh Health Professions Institute (BHPI)

CRP, Chapain, Savar, Dhaka-1343, Bangladesh

Subject: Application for review and ethical approval of thesis

Dear Sir,

With due respect, I am Md Rafiqul Islam, student of Part-II, M.Sc in Physiotherapy at the Bangladesh Health Professions Institute (BHPI), academic institute of Centre for the Rehabilitation of the Paralyzed (CRP) under the medicine faculty of University of Dhaka, as per the course curriculum, I have to conduct a thesis entitled "Factors influencing the utilization of physiotherapy service among the caregiver of cerebral palsy children in the integrated disability service center of Bangladesh", under the honorable supervisor Associate Prof. Firoz Ahmed Mamin. The purpose of the study is to identify the factors influencing the Utilization of physiotherapy Service among Children with Cerebral Palsy. The study involves use of semi-structure questionnaire to measure socio-demography to assess the factors influencing the Utilization of physiotherapy Service among Children with Cerebral Palsy in Integrated Disability Service Centers of Bangladesh that may take 20 to 35 minutes to fill in the questionnaire. There is no likelihood of any harm to the participants and / or participation in the study may benefit the participants or other stakeholders. Related information will be collected from the patient's guide books. Data collectors will receive informed consent from all participants; any data collected will be kept confidential.

Therefore, I look forward to having your kind approval for the thesis proposal and to start data collection. I can also assure you that I will maintain all the requirements for study.

Sincerely,

Md Rafiqul Islam



Part-II, Roll no-01, 4th batch, session-2017-2018

Student of M.Sc in Physiotherapy (MSc.PT)

BHPI, CRP, Savar, Dhaka-1343, Bangladesh.

Recommendation from the thesis supervisor



Firoz Ahmed Mamin

Associate Professor of Physiotherapy,

Bangladesh Health Professions Institute (BHPI).

Attachments: Thesis Proposal, Questionnaire and Information sheet & consent form.

Permission letter for data collection Appendix-D

Date:

To

The Disability affair Officer/Consultant (Physiotherapy)

PSOSK, JPUF

Subject: Application for permission of Data collection for M Sc. PT thesis work

Dear Sir

I am an employee of your organization. I am also Masters of Physiotherapy student in Bangladesh health profession institute (BHPI) Dhaka University. I need data collection from care givers of cerebral palsy children in your center for M SC PT thesis. My thesis title is “Factors influencing the utilization of physiotherapy services among the caregivers of the CP children at PSOSK in Bangladesh .So I want to collect data from your center if you will permit me. My thesis aim is-

To find out the factors affecting adherence to physiotherapy services among the caregiver of Cerebral Palsy children in Bangladesh

Therefore, I hope that you would be granted me and oblige thereby.

You're obediently, Name & Signature of the officer

Signature:

Md. Rafiqul Islam

Name:

Consultant (physiotherapy), Designation: DAO/Consultant (Physiotherapy)

PSOSK, Rajbari.

Protibondhi Seba-O-Sahajjo-kendro.....,

Questionnaire (Bengali)APPENDIX-E

সাধারণ প্রশ্নাবলী

স্টাডি আইডি: তারিখ:.....

সামাজিক জনসংখ্যা তথ্য

অধ্যায় ৪ ক. রোগীর পরীচিতি-

১) বয়সঃ	মাস	২) লিঙ্গঃ	১. ছেলে	২. মেয়ে
৩) বাচ্চার সংখ্যাঃ		৪) সিপি বাচ্চা স্কুলে যায়ঃ	১. হ্যাঁ	২. না
৫) সিপির ধরন :	১.Monoplegic, 2.Diplegic, 3.Quadriplegic, 4.Paraplegic,			
৬) অন্যপ্রতিবন্ধীতা :	১. নাই ২. শ্রবণ ৩. দৃষ্টি ৪. বাক ৫. বুদ্ধি ৬.....			
৭) অন্য অসুখ :	১. নাই ,২. নিউমোনিয়া, ৩. এ্যাজমা, ৪. হৃদ রোগ, ৫. কিডনীর রোগ, ৬.....			

৮) সিপি বাচ্চার অন্যের উপর নির্ভরশীলকি ?

১. হ্যাঁ

২. না

৯) সিপি বাচ্চা কোন সহায়ক উপকরন ব্যবহার করে কি?

১. হ্যাঁ

২. না

১০) উত্তর হ্যাঁ হলে, কি ব্যবহার করে-

১. হুইল চেয়ার, ২. ক্র্যাচ, ৩. ওয়াকার, ৪. এএফও/কেএফও ৫. অন্যান্য

১১) নিয়মিত ডাক্তারের পরামর্শ গ্রহণ করছেন কি?

১. হ্যাঁ

২. না

১২) হ্যাঁ হলে, কোন বিষয়ের বিশেষজ্ঞের পরামর্শ নিচ্ছেন-

১. নিউরোলজিস্ট ২. অর্থোপেডিক ৩. মেডিসিন ৪. পেডিয়াট্রিক ৫. অন্যান্য

১৩) পূর্বে কোথাও ফিজিওথেরাপি নিয়েছেন কি?

১. হ্যাঁ

২. না

১৪) প্রতিবন্ধী সেবা ও সাহায্য কেন্দ্র ছাড়া অন্য কোথাও ফিজিওথেরাপি নিচ্ছেন কি? ১ হ্যাঁ ২. না

১৫) বর্তমানে কোন ঔষধ খায় কি?

১. হ্যাঁ

২. হ্যাঁ

১৬) সিপি বাচ্চা ব্যাতিত পরিবারের অন্যান্য বাচ্চার পরিচিতি :-

	বয়স : (মাস)	লিঙ্গ :	স্কুলে যায় :	অসুস্থতা :	ঔষধখায়
১৬.১		১. ছেলে, ২. মেয়ে	১.হ্যাঁ/ ২.না	১.হ্যাঁ/ ২.না	১.হ্যাঁ/ ২.না
১৬.২		১. ছেলে, ২. মেয়ে	১.হ্যাঁ/ ২.না	১.হ্যাঁ/ ২.না	১.হ্যাঁ/ ২.না
১৬.৩		১. ছেলে, ২. মেয়ে	১.হ্যাঁ/ ২.না	১.হ্যাঁ/ ২.না	১.হ্যাঁ/ ২.না

Treatment adherence সম্পর্কিত তথ্য-

Pres.se	Rec. session	%of. Rec. session	17)Mode		18)Mode of rec. Rx	
			Ad, >70%	Non ad, <70%	Regular	Irregular

অধ্যায় : খ. পরিবারের তথ্য -

১৯)পরিবারের ধরণ : ১. যৌথ পরিবার ২. একক পরিবার

২০)পরিবারের সদস্য সংখ্যা (লিখুন) : পুরুষ- জন, মহিলা- জন,

সর্বমোট : জন।

২১)পরিবারের উপার্জনক্ষম সদস্য সংখ্যা : জন।

২২) পিতার বয়স : ২৩) শিক্ষা : ২৪) পেশা :

২৫)মাসিক আয় : ২৬)অসুস্থতা :

২৭) মাতার বয়স : ২৮) শিক্ষা : ২৯)পেশা :

৩০)মাসিক আয় (যদি থাকে) : ৩১)অসুস্থতা :

৩২)মাতা যদি গৃহিণী হয়, সে অন্য কোন কাজের সাথে সম্পৃক্ত কি? ১. হ্যাঁ ২. না

৩৩)সম্পৃক্ত থাকলে কত সময় ব্যয় করেন (লিখুন) : মিনিট

৩৪) অন্য কাজের সাথে সম্পৃক্ত থাকলে, মাতার মাসিক আয় : টাকা

৩৫)মাতার বর্তমান পারিবারিক অবস্থা : ১. চলমান ২. তালাকপ্রাপ্ত ৩ .বিধবা.

৩৬)প্রধান তত্ত্বাবধায়নকারি- ১.মাতা ২.পিতা ৩.বোন ৪. দাদী৫. .্ৰ....

প্রধান তত্ত্বাবধায়নকারি পিতা-মাতা ব্যতিত যদি অন্য কেহ হয়, সেক্ষেত্রে-

৩৭)প্রধানতত্ত্বাবধায়নকারির বয়সঃ ৩৮) বাচ্চর সাথে সম্পর্কঃ৩৯) শিক্ষাগত যোগ্যতা :

৪০)পেশা :

৪১)বৈবাহিক অবস্থা : ১.বিবাহিত ২. অবিবাহিত ৪২)অসুস্থতা :

৪৩)যদি প্রধান তত্ত্বাবধায়নকারি মাতা ব্যতিত অন্য কেহ এবং গৃহিনী হয়, সে অন্য কোন কাজের সাথে

সম্পৃক্ত কি? ১. হ্যাঁ ২. না

৪৪)যদি উত্তর হ্যাঁ, হয় তাহলে কত সময় সম্পৃক্ত থাকেন- মিনিট

৪৫) তত্ত্বাবধায়নকারী প্রতিদিন কত সময় বাচ্চর খেরাপির জন্য ব্যয় করেন- মিনিট

৪৬)তত্ত্বাবধায়নকারীর ফিজিওথেরাপি সম্পর্কে ধারণা কেমন-

১. খুব ভাল ২. ভাল ৩. মোটামুটি ৪. কোন ধারণা নেই

অধ্যায় : গ. বাসস্থান ও যোগাযোগ ব্যবস্থা সম্পর্কিত তথ্য -

৪৭) আবাসস্থলের অবস্থান- ১.গ্রাম ২.উপজেলা শহর ৩. জেলা শহর

৪৮) আবাসস্থলের ধরন - ১. পাকাবাড়ি ২. টিনের তৈরি ৩. আধাপাকা

৪. মাটি ও খড়ের তৈরি ৫. মাটি ও টিনের তৈরী ৬. অন্যান্য

৪৯) গৃহে প্রবেশের জন্য সিড়ি ব্যবহারের প্রয়োজন হয় কি? ১. হ্যাঁ ২. না

৫০) উত্তর হ্যাঁ হলে, কয়টি সিড়ি ব্যবহার করতে হয়- টি

৫১) আবাসস্থলে হুইলচেয়ারে চলাচলের সুব্যবস্থা আছে কি? ১. হ্যাঁ ২. না

৫২) আবাসস্থল থেকে খেরাপি সেন্টারের দুরত্ব : কিঃ মিঃ।

৫৩) আবাসস্থল হতে ফিজিওথেরাপি সেন্টার পৌঁছাতে কত সময়ের প্রয়োজন হয় : মিনিট

৫৪) আবাসস্থল হতে থেরাপি সেন্টারে যেতে - আসতে কত টাকা খরচ হয়(লিখুন) - /=

৫৫) যোগাযোগের রাস্তা কী দ্বারা তৈরি? ১. পিচেররাস্তা ২. ইটের সোলিং ৩. কাঁচা রাস্তা

৫৬) যোগাযোগের মাধ্যম কি? ১. বাস+অটোরিক্সা ২.বাস+মাহিন্দ্র ৩.বাস+রিক্সা৪.অটোরিক্সা

৫. বাস ৬.রিক্সা/ভ্যান ৭.মাহিন্দ্র ৮.....

৫৭) থেরাপি সেন্টারে যেতে নদী পার হতে হয় কি? ১. হ্যাঁ ২. না

৫৮)উত্তর হ্যা, নদী পারাপারের জন্য কি ব্যবহার করেন-১.নৌকা, ২. লঞ্চ, ৩. স্টিমার ৪.স্পিড বোর্ড

৫৯) থেরাপি সেন্টারে যেতে বাসের সাঁকো/কাঠের ব্রিজ ব্যবহার করতে হয় কি? ১. হ্যাঁ ২. না

৬০) থেরাপি সেন্টারে আসতে যানবাহন পরিবর্তন করতে হয় কি? ১. হ্যাঁ ২. না

৬১) উত্তর হ্যা, হলে কতবার নির্দিষ্ট করুন-

৬২)প্রতিবন্ধী বাচ্চা কে যানবাহনে উঠানামা করাতে কোন সমস্যার সম্মুখীন হয় কি?১. হ্যাঁ২. না

৬৩) উত্তর হ্যা, হলে নির্দিষ্ট করুন-

অধ্যায় : ঘ. অর্থনৈতিক সম্পর্কিত তথ্য -

৬৪)পরিবারের মোট মাসিক আয় কত টাকা? (হাজারে)- টাকা

৬৫)পরিবারের মোট মাসিক ব্যয় কত টাকা? (হাজারে)- টাকা

৬৬)সিপি বাচ্চার চিকিৎসা (ঔষধ) বাবদ মাসিক আনুমানিক ব্যয় : টাকা

৬৭)সিপি বাচ্চার ফিজিওথেরাপি চিকিৎসা বাবদ মাসিক আনুমানিক ব্যয় : টাকা

৬৮)সিপি বাচ্চা প্রতিবন্ধী ভাতা পায় কি? ১. হ্যাঁ ২. না

৬৯)ভাতা পেলে তা কি কাজে ব্যয় হয়? ১. ঔষধ ক্রয় ২. খাবার ক্রয় ৩. থেরাপির জন্য ৪. অন্যান্য

অধ্যায় : ঙ. সামাজিক এবং সাংস্কৃতিক তথ্য-

৭০) প্রতিবন্ধী বাচ্চার প্রতি বাবার মনোভাব কেমন- ১. দৃঢ় ইতিবাচক ২. ইতিবাচক ৩. দৃঢ় নেতিবাচক

৪. নেতিবাচক

৭১) প্রতিবন্ধী বাচ্চার প্রতি প্রতিবেশির মনোভাব কেমন - ১. দৃঢ় ইতিবাচক ২. ইতিবাচক ৩. দৃঢ় নেতিবাচক

৪. নেতিবাচক

৭২) প্রতিবন্ধী বাচ্চার দেখাশুনার জন্য পরিবারের অন্য সদস্যরা সহযোগিতা করে কি? (যৌথ পরিবার

হলে)- ১. হ্যাঁ ২. না

৭৩) পরিবারের অন্য বাচ্চারা প্রতিবন্ধী বাচ্চার সাথে মেলামেশা এবং খেলাধুলা করে কি?

১. হ্যাঁ ২. না

৭৪) আপনার বাচ্চাকে নিয়মিত ফিজিওথেরাপি চিকিৎসা করাতে পরিবারের কেউ বাধা প্রদান করে কি?

১. হ্যাঁ ২. না

৭৫) উত্তর হ্যাঁ হলে, কে বাঁধা প্রদান করে-

অধ্যায় ৪ চ. প্রতিষ্ঠানের সেবা সম্পর্কিত তথ্য -

৭৬) সিপি বাচ্চাদের এই সেন্টারে ফিজিওথেরাপি চিকিৎসা প্রদান করা হয় তা আপনি কি ভাবে জানতে

পেরেছিলেন? ১. প্রচার-প্রচারণা ২. পুরাতন রোগী ৩. অন্য ডাক্তার ৪. এনজিও ৫. অন্যান্য

৭৭) রিসিপিশনে আপনাকে কোন রকম সমস্যার সম্মুখীন হতে হয়েছে কি? ১. হ্যাঁ ২. না

৭৮) উত্তর হ্যাঁ হলে, কি সমস্যার সম্মুখীন হতে হয়েছিল?-

৭৯) চিকিৎসা গ্রহন করতে কত সময় অপেক্ষা করতে হয় (লিখুন)-

মিনিট

৮০) চিকিৎসা গ্রহনকালীন সময়ে আপনার বাচ্চার কোন রকম সমস্যা হয়েছিল কি?-

১. হ্যাঁ ২. না

৮১) উত্তর হ্যাঁ হলে, কি সমস্যা হয়েছিল?-

৮২) এই সেন্টারে ফিজিওথেরাপি চিকিৎসা গ্রহন করতে কোন টাকা-পয়সা খরচ হয়েছিল কি? -

১. হ্যাঁ ২. না

৮৩) এই প্রতিষ্ঠানে আপনার বাচ্চাকে নিয়মিত ফিজিওথেরাপি সেবা প্রদান করা হয় কি?

১. হ্যাঁ ২. না

৮৪) ফিজিওথেরাপিষ্টে আপনার সাথে সৌহার্দ্য পূর্ণ আচরণ করেছিল কি?

১. হ্যাঁ২. না

৮৫) ফিজিওথেরাপিষ্টে আপনার বাচ্চাকে যত্নসহকারে ফিজিওথেরাপি চিকিৎসা প্রদান করেছিল কি? -

১. হ্যাঁ২. না

৮৬) থেরাপি ইউনিটের সহকারী আপনার বাচ্চাকে চিকিৎসা গ্রহণে সহায়তা প্রদান করে কি?

১. হ্যাঁ২. না

৮৭) এই সেন্টারে আপনার বাচ্চাকে সর্বোচ্চ কত সময় যাবৎ ফিজিওথেরাপি সেবা প্রদান করে? (লিখুন)-

মিনিট

৮৮) এই সেন্টারে আপনার বাচ্চাকে কি কি থেরাপি সেবা প্রদান করা হইয়েছে?

১.ফিজিওথেরাপি২. অকুপেশনালথেরাপি৩. স্পীচ অ্যান্ড ল্যাঙ্গুয়েজ থেরাপি৪.কাউন্সেলিং৫.....

৮৯) এই প্রতিষ্ঠানে ফিজিওথেরাপি চিকিৎসা গ্রহণের পরে আপনার বাচ্চার অবস্থার কোন পরিবর্তন হয়েছে কি?

১. হ্যাঁ

২. না

৯০) উত্তর হ্যাঁ হলে, কেমন পরিবর্তন- ১. খুব ভাল ২.ভাল ৩. মোটামুটি ৪.ভাল না

গবেষণায় সহযোগিতা করার জন্য আপনাকে অসংখ্য ধন্যবাদ

Questionnaire(English)Appendix-F

Socio-demographic information

Chapter: 01 Patient's information:

1. Age:Months	2. Sex: 1. Male 2. Female
3.Num.ofChild		4. Schooling of CP child: 1. Yes 2. No
5. Type of CP	1.Monoplegic, 2. Diplegic/Hemiplegic, 3. Quadriplegic 4. Paraplegic,	
6. Other disability	1. Nil, 2. Hearing,3. Vision, 4. Spech, 5. Inteectual, 6 ----	
7.Other disease	1. Nil 2. Pneumonia 3. Asthma 4. Heart disease 5. kidney disease 6. -----	

8. Is the CP child dependent on others?. 1. Yes 2. No

9.Does CP child use any assistive device? 1. Yes 2. No

10.If answer yes, what type of assistive device is used?

1. Wheel chair 2. walker 3. AFO/KAFO 4. crutch 5. others

11. Have you taken regular consultation for your child with the doctor?

1. Yes 2. No

12. If the answer is yes, what kind of specialist doctor has taken advice?

1. Neurologist 2. Orthopedic 3. Medicine 4. Pedriatric 5.....

13. Have you taken any physiotherapy service somewhere?

1. Yes 2. No

14. Are you taking physiotherapy service somewhere besides the disable services and help centers? 1. Yes 2. No

15. Is your child currently taking any medication? ? 1. Yes 2. No

Introduction of other children without the patient-(If any)

16. Age(months):17. Sex: 1.Male 2. Female

18. Schooling: 1. Yes 2. No 19. Illness:

20. Take any medicine: 1 Yes 2. No

Treatment adherence information-

Pres. session	Rec. session	% of adherence	21.Mode		22. Mode of rec. Rx	
			Adherence	Non adherence	Regular	Irregular

Chapter02: Family information:-

23. Family type: 1. Joint family 2. Single family

24. Family member: Male- Female- Total=

25. Earning family member:

Parents information-

26. Age of the father: 27. Education:

28. Occupation: 29. Monthly in come

30. Illness:

31. Age of the mother: 32. Education:

33. Occupation: 34. Monthly in come(if any)-

35. Illness:

36. Mother is a housewife, but is involved in other work? 1. Yes 2. No

37. If Mother is involved in other work, how much time is spent?

38. If Mother is involved in other work, how much the monthly income?

39. Mother's family status- 1. Relation continued 2. Divorced 3. widow

If principal caregiver is anyone other than parents, then-

40. Age:

41. Relation with child:

42. Education:

43. Occupation:

44. Marital status:

45. Illness:

46. If principal caregiver is other than mother and housewife, is she involved in any other work? 1. Yes 2. No

47. If the answer is yes, how much time is involved?

48. Principle caregiver how much time spend for the physiotherapy of the baby?
.....min.

49. What is the learning of principle caregiver about the physiotherapy?

1. Very good 2. Good 3. Minimal learning 4. No learning

Chapter 03:- House and communication related information:-

50. Location of residence- 1. Village 2. Upazilla 3. Distric city

51. House type- 1. Brick made 2. Tin made 3. Brick & Tin
4. Soil and Straw 5. Soil and Tin 6.

52. Do you need to use the stairs to enter the house?

1. Yes 2. No

53. If answer yes, how many stairs to use?

54. Is there a wheelchair access to the residence? 1. Yes 2. No

55. What is the distance of the physiotherapy center from the home?
.....km.

56. How much time is required to reach from home to therapy center?

..... min.

57. How much does it cost to go to the physiotherapy center from home?

58. What is the communication road made by?-

1. Pitch cast 2. Brick 3. Soil road

59. Main transport system: 1. Buss 2. Mahindra 3. Rickshaw 4. Easy bike

60. Do you have to cross the river to come to the therapy center from the home?

1. Yes 2. No

61. What do you use for crossing the river?

1. Boat 2. Launch 3. Steamer 4. Speed boat

62. Do you have to cross Bamboo Bridge to come to the therapy center from the home?

1. Yes 2. No

63. Do you have to change the vehicle to come to the physiotherapy center?

1. Yes 2. No

64. If answer yes, How many times?-

65. Is there a problem with the child carrying the vehicle? 1. Yes 2. No

66. If answer yes, what problem are you facing?-

Chapter 04:- Economic Factors:-

67. Have any savings of the family- 1. Yes 2. No

68. What is the monthly income of the family? - Tk.

69. How much is the total monthly expenditure of the family?Tk

70. How much is the estimated monthly cost of purchasing medicine for CP child?
.....Tk.

71. What is the estimated monthly expenditure of CP child's physiotherapy treatment?
.....Tk.

72. Does CP child get disability allowance? 1. Yes 2. No

73. If answer yes, how this allowance to spend? For-

1. Medicine 2. Food 3. Physiotherapy 4.

Chapter 05: Social and cultural factors:-

74. How does the attitude of father of the disabled child?

1. Strongly positive 2. Positive 3. Neutral 4. Strongly negative 5. Negative

75. How is the neighborhood view of a disabled child?

1. Strongly positive 2. Positive 3. Neutral 4. Strongly negative 5. Negative

76. Do the other members of the family help you to take care of disabled child? (For joint family)-

1. Yes 2. No

77. Do the other children in the family meet and play with CP children?

1. Yes 2. No

78. Does any member of the family interrupt your child's regular physiotherapy treatment?

1. Yes 2. No

79. If answer yes, who interrupts-

Chapter 06: Institutional factors:-

80. How did you know that your CP child physiotherapy is done in this center? 1.

- Publicity 2. Old patients 3. Doctors 4. NGO 5.

81. Did you face any embarrassing situation in the reception?

1. Yes 2. No.

82. If the answer is yes, what was the embarrassing situation ?

83. How long do you have to wait in reception for treatment?

.....min.

84. Did your child have any problems during the treatment? 1. Yes 2. No.

85. If the answer is yes, what was the problem?-

86. Did you have to spend any money to receive treatment at this center?

1. Yes 2. No.

87. Is this institution providing regular physiotherapy services to your child?

1. Yes 2. No.

88. Did the physiotherapist treat you well? 1. Yes 2. No.

89. Did physiotherapist provide physiotherapy care to your child carefully?

1. Yes 2. No.

90. Does physiotherapy assistant assist your child during treatment?

1. Yes 2. No.

91. How much time physiotherapy is given to your child at this center?

.....min.

92. What therapy was given to your child in this organization?

1. Physiotherapy 2. Occupational therapy 3. Speech & Language therapy 4.
Counseling 5.....

93. Did your child's condition change due to the treatment of physiotherapy in this institute?

1. Yes 2. No.

94. If answer is Yes, how much change the condition?

1. Very good 2. Good 3. Fairly well 4. Not good.