

Experience of a Person with Lower Limb Amputation in Performing Activities of Daily Living by Using Assistive Technology



By
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Dedication

Dedicated to my respected Father Golam Robbani, Assistant Prof. of
Zoology, and my beloved mother Rowshon Ara Khatun.

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List of Abbreviations

ADL:	Activities of Daily Living
AT:	Assistive Technology
BHPI:	Bangladesh Health Professions Institute
CRP:	Centre for the Rehabilitation of the Paralysed
IRB:	Institutional Review Board
LLA:	Lower Limb Amputation
OT:	Occupational Therapy

Abstract

Background: The loss of a body part can cause physical, psychological and social disturbances. The majority of previous studies in this area focus on the impact of amputation or the effectiveness of rehabilitation programmes. This is the first study in Bangladesh exploring the experiences of persons with amputation in daily living activities (self care, productivity and leisure) by using assistive technology.

Purpose: To provide an understanding of the everyday experiences of individuals with a limb amputation.

Methods: A qualitative study design was used. Eight participants 2 female, 6 male with lower limb amputation were included for this study. The investigator was selected face to face interviewing method for data collection with self-structured questions. The researcher listened to the interviews several times from the phone recorder and then the interviewed data was transcript in Bangla. Then five copies were made from the transcript and were given to five people for translation from Bangla to English. Then the data was being analyzed by thematic.

Results: Four themes were identified in self-care, productivity, and leisure activities and the embodied experience after amputation. The result of this study show that most of the participants face problems in participating in their daily living activities by using assistivetechonology. Participation restriction was most commonly experienced in self care, leisure activity and productivity. For daily activities and functioning, the most common difficulties were with standing for long periods, walking long distances, using the low commode, manaiging stall, walking out in rainy days, carrying weight more than 10kg, cooking in lower place, bathing.

Conclusions: These themes provide a key resource for understanding daily fluctuations in self-care, productivity, and leisure activity. The findings of this study enhance our understanding of environmental barriers and challenges, activity limitations and participation restrictions of people with lower limb amputation.

Keywords: Amputation, Assistive Technology, Activities of daily living

CHAPTER I: Introduction

1.1 Background

Amputation is the most ancient of all surgical procedures. Amputation of a hand or foot was a common punishment in many of the older so-called civilized societies and is still carried out today in some countries. In those times, surgical amputation was a crude procedure by which a limb was rapidly severed from an unanesthetized patient; for hemostasis, the open stump was crushed or was dipped in boiling oil. This procedure was associated with a high mortality rate. For those who survived, the resulting stump was poorly suited for prosthetic fitting. (Burger H, Marincek C, 2007) Early in the sixteenth-century amputation surgery and prosthetics were much improved by Ambroise Paré, a French military surgeon. Paré created more functional stumps and was the first to use ligatures to control bleeding after amputation; he also designed relatively sophisticated prostheses. Refinements of surgical techniques such as hemostasis, anesthesia, and improved perioperative conditions have occurred. Modern total-contact prostheses can be fitted satisfactorily on any properly constructed and well-healed lower extremity amputation stump, usually resulting in excellent function. (Layton, N. 2012). However, amputation is still often viewed as a failure of treatment. The responsibility for performing an amputation may even fall on the most junior member of the surgical team. Whatever the reason for performing an extremity amputation, it should not be viewed as a failure of treatment. Early in the sixteenth-century amputation surgery and prosthetics were much improved by Ambroise Pare, a French military surgeon. Pare created more functional stumps and was the first to use

ligatures to control bleeding after amputation; he also designed relatively sophisticated prostheses. (Burger H, Marincek C, 2007). Refinements of surgical techniques such as hemostasis, anesthesia, and improved perioperative conditions have occurred. Modern total-contact prostheses can be fitted satisfactorily on any properly constructed and well-healed lower extremity amputation stump, usually resulting in excellent function. However, amputation is still often viewed as a failure of treatment. The responsibility for performing an amputation may even fall on the most junior member of the surgical team. Whatever the reason for performing an extremity amputation, it should not be viewed as a failure of treatment. Amputation can occur at an accident site, the scene of an animal attack, or a battlefield (William C. Shiel Jr. n.d.). Lower-limb amputation is the removal of a part or multiple parts of the lower limb (Alberto Esquenazi, 2012). After lower limb amputation, the person faces difficulty in movement as well as other occupational performance activities. This is why a person needs assistive technology. Assistive technology can be defined as: "any item, piece of equipment, product or system that is used to increase, maintain or improve the functional capabilities and independence of people with cognitive, physical or communication difficulties". The use of AT by persons living with dementia may by extension also benefit the carer, as it could offer the potential to increase the support to carers and alleviate some of the burdens of caregiving. The study of "Experience of the person with lower limb amputation in performing activities of daily living by using assistive technology" is finding out what is the experience of the person with lower limb amputation in performing activities of daily living by using assistive technology. Amputation and mobility difficulties are prominent causes of disability (Cochrane, et. al. (2015).

In Western countries, 25–40% of patients are referred directly from acute care hospitals to rehabilitation centers (Dillingham et al. 1998, Pezzin et al. 2000). There are approximately 400,000 amputees in the United States. It has been estimated that approximately 50,000 new amputations are performed each year (Goldstone, J., et. al.). In Pakistan, Among the total population of amputees, 83.58% were males. The most common cause for major limb amputation was road Traffic accidents 38.38%, followed by Diabetes 15.42%, infection 14.26%, and trauma 12.37%. Lower limbs [trans-tibial] amputations were in 47.35% of cases and transfemoral in 27.98% of cases. While for the upper limb trans-radial amputation [7.4%] were found to be more common than trans-humeral [5.56%]. Other amputations were for shoulder, hip, and knee disarticulations. Road traffic accidents, complications of diabetic foot ulcers, infections, and trauma were the most common causes for major limb amputations found in low resource communities, Sindh Pakistan. N.S. (2012). The majority of these amputations are preventable by the endowment of traffic rules, health education, early preventions, and appropriate management of common infections. In addition, although amputation of a limb is sometimes a lifesaving measure, it exacts a physical and psychological price from the patient. Since an increasing number of amputations are performed each year due to the expanding geriatric population (Goldstone, J., et. al.). Traumatic amputations are caused by injuries that destroy blood vessels — usually motor vehicle accidents, gunshot wounds, mechanical equipment, and tool accidents (Azra vascular care, 2019). The most common environmental barriers encountered were climate, physical environment, and income. Participation restriction was most commonly experienced in sports/physical recreation, leisure/cultural activity, and

employment/job-seeking. For daily activities and functioning, the most common difficulties were with standing for long periods, walking long distances, and the emotional effects of disability. Differences were found between people with an upper limb or lower limb prosthesis (Gallagher et. al. 2011). There are 101,585 people with disabilities in Bangladesh which is 1.41% of the total population (Bangladesh Bureau of Statistics-2011). Bangladesh is a middle-income country and about 167 million people live here, of which about 60% work as laborers. In this country workplace and motor, vehicle injuries are common. Most of this result is lower limb amputation. Lower limb amputation reduces a person's mobility. Not only this, but it also hampers a person's occupational performance area (Lonwabo. L. Godlwana, November 2009). Although lower extremity amputation continues to be a major source of morbidity and mortality worldwide, the extent of this burden cannot be accurately quantified because of international variation and a lack of standardized reporting measures. Effective standardized reporting methods of major, minor, and at-risk populations are needed. The rising incidence of diabetes mellitus, global average age, ethnicity, and social deprivation all influence incidence of amputation worldwide. Significant global variation exists in the incidence of lower extremity amputation. Ethnicity and social deprivation play a significant role but it is the role of diabetes and its complications that is most profound. Lower extremity amputation reporting methods demonstrate significant variation with no single standard upon which to benchmark care. Effective standardized reporting methods of major, minor, and at-risk populations are needed to quantify and monitor the growing multidisciplinary team effect on lower extremity amputation rates globally. Therefore, the rehabilitation sector plays an important role

in making a person functional again. By using various assistive devices, a user can again become independent in his occupational performance area. (Vickers DR. 2008). In Bangladesh and abroad very few studies have been done about the experience of the person with lower limb amputation when performing in activities of daily living by using assistive technology. So the student investigator feels interested to study this. By this study, it will be easier to find out about their experience in activities of daily living by using assistive technology. The present research investigated the experience of an amputee person with their AT in performing activities of daily living.

1.2 Justification of the Study

The generalization of this present study would be a great contribution to establishing an understanding of experience of a person with lower limb amputation in performing activities of daily living by using assistive technology. The result of this study would be beneficial specifically to the following:

Health Professionals: Through this study, the health professionals will be able to know the patient's experience and problems in daily activities with assistive technology. They also identify the problem and get an idea of the issues that need to be improved in terms of service delivery.

Relevance to clinical practice: Health professionals need to acknowledge the real needs of people with lower extremity amputation and provide them a clear explanation regarding the short-term and long-term health issues associated with amputation during the pre- and post-amputation phase. Health professionals also need to expand the scope of services beyond a physical and prosthetic focus. Removing environmental barriers, arranging their training under multidisciplinary rehabilitation team, ensure accessible environment to make their life easier. All of this is very important. Currently, such programmes are unavailable in Bangladesh.

Participants: By this study participant will know broadly about herself, his/her limitations, find out the possible solution, and may seek help from the service provider.

Further researchers: The ideas presented can be used as reference data for carrying out new research. Moreover, the researcher can verify the accuracy of the information mentioned in the study and will provide ideas for a related study.

1.3 Operational Definition

Assistive Technology:

Assistive technology (AT) is any item, piece of equipment, software program, or product system that is used to increase, maintain, or improve the functional capabilities of persons with disabilities.

Assistive technology helps people who have difficulty speaking, typing, writing, remembering, pointing, seeing, hearing, learning, walking, and many other things. Different disabilities require different assistive technologies. (M. I. Andrew, 2014).

Amputation:

Amputation is the loss or removal of a body part such as a finger, toe, hand, foot, arm, or leg. It can be a life-changing experience affecting your ability to move, work, interact with others, and maintain your independence. Continuing pain, phantom limb phenomena, and emotional trauma can complicate recovery. (Liliana E. Pezzin et al, 2004).

Activities of daily living:

ADLs are those skills required to manage one's basic physical needs, including personal hygiene or grooming, dressing, toileting, transferring or ambulating, and eating. (Layton, N. 2012).

CHAPTER II: Literature Review

In this part, the student investigator discusses a short overview of the literature she has viewed.

The student investigator reviewed various literature, related to his research work. For these, she has been used PubMed, Google scholar, and science direct. Nowadays amputation is the most important cause of disability.

After amputation amputees face difficulty in performing ADLs and also physical mobility. Their quality of life also becomes poor (Miller, et al. 2002).

This literature review chapter highlight what to discuss about the experience of the person with lower limb amputation in performing activities of daily living by using assistive technology.

Participation restriction in everyday activities:

In Canada, there was conducted a study on a qualitative study exploring individuals' experiences living with dysvascular lower limb amputation. Its study design was semi-structured qualitative interviews. 35 individuals with lower limb amputation participated in this study (both male and female). In this study, participants provided an in-depth account of their life experiences. Changes in their mobility have affected their personal life, social life, and mental health. The authors showed that after amputation there is a change in functional mobility. Participants reported that they were slower than before. Their daily tasks such as bathing, dressing, or performing various physical tasks take a lot of time. They also reported that they walk very slowly and can walk very short distances. This physical change prevents them from walking fast, climbing, dancing, and participating

in sports. (MacKay, R et al. 2020)

In Ireland, research has been done about environmental barriers, activity limitations, and participation restrictions experienced by people with major limb amputations. The study design was secondary data analysis. In this study, 148 participants were randomly selected. From the result of the study, the researcher found that the most common environmental barriers that amputees face are: climate, physical environment, and income. Limitations of participation were usually in sports or physical recreation (73.4%), leisure or cultural activities (51.9%), and employment or job seeking (68.8%). For individuals with a lower limb prosthesis, difficulties were experienced with walking an extended distance (87.7%), standing for long periods like a half-hour (81.5%), and the emotional effect of disability (69.2%). Lower limb prosthesis users were more likely than upper-limb prosthesis users to experience difficulty walking a long distance, standing for long periods, and joining in community activities. The most common areas of participation restriction were sports or physical recreation, leisure/cultural activities, and employment or job seeking (Gallagher, Donovan, et al. 2011). People with a lower limb amputation end up with decreased speed, decreased range of motion of the hip and knee, poor vertical ground reaction force, 25 increased amplitude and periods of muscle activation, short single support on stance leg (amputated leg), small stance, instability instance and decreased proprioception (Vickers et al, 2008). This may thus result in functional limitation.

There are some gaps in these studies. There is no clear information about ethical clearance and also no clear information about how to reduce participation restrictions in everyday life.

Impact of lower limb amputation in occupation:

Lonwabo. L. Godlwana (November 2009) has done a study in South Africa about the impact of LLA on quality of life. In this study, there were 73 participants. It was a longitudinal pre-test-post test study with a combination of interviews to collect quantitative data. The result of this study was most of the individuals lost their previous job after limb amputation. It impacts their life badly. They could not find a new job and their quality of life became low than previous. Some were worried about the financial implications of rehabilitation as they were unemployed. It was very difficult to find a new job. Anybody could not agree to take theirs in the job. For this reason, they also faced socio-economic challenges. But in this study, some participants reported that they find a job easily and they were satisfied in their current job. Some participants lost their income as they could no longer cope with their previous occupation. These findings are similar to those by Burger & Marincek, (2007). The gap of this study is there small group of participants included this study. Result is not explain properly and some of the references are wrong.

In the Netherlands, research has been done about job satisfaction and health experience with a lower limb amputation. It was a cross-sectional study with a mailed questionnaire. Here 144 patients participate in this study. From this study result, the researcher found that those who took vocational training quickly returned to their new jobs. Moreover, those who were well modified in the job sector were able to do the same work as their colleague. Participation in a job depends on some factors, such as job category, the behavior of a colleague, job salary, job place modification, etc. If these are positive, then an amputee can participate in his job with satisfaction. Of those who participated in this study, 26% of

amputees were able to adjust their work very well. 30% of the subjects with an amputation and 46% of the controls judged their work as unsatisfactory. And in those cases where the factors were negative, they left the job after a while.

Reactions and feelings about becoming an amputee:

Some participants had suicidal thoughts during their recovery time postoperatively. They went to extreme psycho-emotional conflicts of views about their existence. At some point during the early days postoperatively they did not see the need to be in this life and they contemplated taking their own lives. This is an interesting finding, especially that in another local study, some were reported as having given up and feeling that it was better to die. In this study, one participant was considering committing suicide. (Kamel, 2000)

Patients' verbalizations about the diagnosis and becoming an amputee reported different kinds of meanings. Most verbalized reactions and feelings such as sadness, shock, insurgence, surprise, non-acceptation of the situation, anger, and suicidal thoughts. Some patients also verbalized pain relief as a consequence of the amputation. In these cases, the limb loss seems to have a less negative resonance and to be associated with pain cessation. The majority of patients continue to resist assistive devices and do not accept their new situation at all. They have already begun to cope with their loss and use some assistive devices, but the impairment is not a part of them, yet. These patients are in the transition from perceiving themselves as 'not amputee' to 'amputee' (Senra H. et al, 2011).

Social disruption:

Participants indicated that having social activities and "getting out of the house" were important to them. Participants identified a range of social and recreational activities including visits with family and friends, gardening, shopping, or participating in other

hobbies. While some participants indicated they were satisfied with their social lives, other participants indicated that changes in their mobility due to limb loss limited their opportunities for social engagement. Participants reported giving up social activities due to feeling fatigued or being unable to physically access the environment. Giving up social activities could result in perceived social isolation for some participants. Finally, family, friends, and peers with amputations were a source of companionship to engage in social activities and interactions. Participants with fewer social supports were more likely to indicate they were isolated. (MacKay C. et al, 2020) (Lonwabo. L. Godlwana, 2009) (Liesel Ennion and Sarah Manig, 2018).

Accessibility:

Access to transportation was critical for participants to conduct routine activities (e.g., appointments) as well as engage in social events. Participants often indicated that driving enabled them to participate in valued activities and provided them with a sense of independence and self-reliance. The inability to drive was viewed by some participants as a barrier to social interactions. Participants also indicated that they relied on family, public transportation, and taxis for transportation. While these options enabled participation in the community, they were not without challenges. Participants described a range of ways in which their home environment influenced how they engaged in their routine daily tasks. They described how the accessibility of their homes could enable their activities of daily living or act as a barrier to their mobility and independence. (MacKay C. et al, 2020) (Melissa Catherine Day, Ross Wadey & Siobhan Strike, 2018)

Level of satisfaction of amputee persons with assistive devices:

Most amputees appeared to be satisfied with the overall performance of their prostheses

(75.7%). Similar levels of satisfaction were observed with the prosthesis socket fit (75.5%), appearance (80.4%), and weight (77.1%). The highest levels of satisfaction related to ease of use of the prosthesis, with 86.4% of all respondents reporting being satisfied or very satisfied with the ease of putting on or taking off their devices. The lowest levels of satisfaction related to prosthesis comfort, with nearly one-third of all (lower-limb) amputees expressing dissatisfaction with their prosthesis comfort while standing or sitting. Men were more likely than women to be satisfied with the prosthesis fit, comfort, and appearance, although there was no gender difference in frequency of prosthesis use.

(Liliana E. Pezzin et al, 2004)

The use of prosthesis reduced the use of upper limb muscle and energy required when compared with the use of axilla crutches among lower limb amputees. In contrast with this study findings, it shows that uses of axilla crutches and walking frames while at community shows more independence and satisfaction when performing with self-care activities compared with other devices only. Some of the participants used axilla crutches and walking frames as the primary assistive device because of the process of making prosthesis or due to poor prosthetic fit and this leads to small numbers of participants using this type of assistive device compared with the prosthetic user. It indicates the axilla crutches and walking frames are not their permanent assistive device because the use of current axilla crutches and walking frames as the transition before used new prosthesis. The wheelchair users have less satisfaction level in self-care and non-self-care compared to other devices and the need for technology support was more for the wheelchair users compared to the other devices users. Based on this study, the early study was supported that used canes, and crutches may reduce the personal assistance required for performing activity daily livings

but not in wheelchairs and walkers users (Vetrayan J. et al, 2015)

According to Layton, 2012, the wheelchair may have barriers in the environment, public transport, and also in the community environment. Because of this functional level and satisfaction may be lower for wheelchair users.

CHAPTER III: Methodology

3.1 Research aim, objectives, and questions

Research questions

What is the experience of the person with lower limb amputation in performing activities of daily living by using assistive technology?

Aim and objectives

Aim:

To explore the experience of the person with lower limb amputation in performing activities of daily living by using assistive technology.

Objective:

- To explore the experience of the person with lower limb amputation in performing self-care activities by using assistive technology.
- To explore the experience of the person with lower limb amputation in participating productivity by using assistive technology.
- To explore the experience of the person with lower limb amputation when engaging in leisure activities by using assistive technology.

3.2 Research design

The researcher selected qualitative methodology for this study because it was helpful to find out the perceptions of people in particular settings and to understand their perspectives. Qualitative research is exploratory by which the researcher can gain

insights into another person's views, opinions, feeling, and beliefs within their natural setting (DiCicco-Bloom & Crabtree, 2006). The researcher used thematic analysis. Thematic analysis is a method of analyzing qualitative data. It is usually applied to a set of texts, such as interview transcripts. The researcher closely examines the data to identify common themes – topics, ideas, and patterns of meaning that come up repeatedly (Caulfield, 2016).

3.3 Study setting and period:

The study was conducted in the community. This setting was selected for data collection because it gives a clear idea about the experience of the participants and it was accessible for the researcher.

The study was conducted from April, 2021 to February, 2022.

3.4: Study participants:

A. Study Population and Sample:

The population of this study was the lower limb amputation persons of Bangladesh who live in the community and 08 participants both male and female were selected from the community to conduct this study.

B. Sampling technique:

The investigator used purposive sampling for collect data to conduct this study. A form of non-probability sampling in which decisions concerning the individuals to be included in the sample are taken by the researcher, based upon a variety of criteria which may include specialist knowledge of the research issue, or capacity and willingness to participate in the research (Oliver, 2013).

We know that the main goal of purposive sampling is to focus on particular characteristics of a population, which is best able you to answer your research questions. In this sampling technique, the investigator selects the population according to his need. Individuals that are easily accessible are selected which takes much less time and cost. The issues mentioned above are consistent with this study. So the investigator used the purposive sampling technique.

C. Participant Recruitment Process:

The number of person who have returned in the community after completing rehabilitation phase from the CRP P & O department has been reached by collecting the phone number and contact with them. Which person live in near to the CRP they are selected for interview and some participants have been taken from the community who have been admitted to the CRP for prosthetic limb. Basically this is how the participant requitment process has been completed.

D. Inclusion and exclusion criteria

Inclusion Criteria:

- Participants must use assistive technology during performing daily living activities at home.
- Both male and female.
- The participants both unilateral and bilateral lower limb amputation.
- The cause of amputation was due to trauma or disease.
- At least 1 month continuously assistive technology user person.

Exclusion Criteria:

- Diagnosed mental illness.
- Congenital amputee.

3.5 Ethical considerations**According to Helsinki, Finland, June 1964,**

The researcher maintained ethical consideration in all aspects of the study. Before starting the study a formal project proposal was submitted to the department of occupational therapy and after verifying the proposal, permission was taken from the Institutional Review Board (IRB) of BHPI to continue the study. The researcher took permission to conduct the research project from the supervisor and Head of the Department, the academic institute of CRP for data collection. Informed consent was used to take permission from all participants. Participants' rights and privileges were ensured. There are no external pressures and fees for participating in this study. Participants will have no risk, and you face no physical or mental harm while answering the question. Participants do not have to participate if he/she do not agree. Participants may withdraw their participation at any time without giving any explanation to the researcher, despite their consent. All the participants were aware of the aim and objectives of the study. Findings of the study were disseminated with the approval of regarding authority.

3.6 Data collection

Data collection method

The student investigator was selected face to face interviewing method for data collection with the self-structured question. A personal interview survey also called a face-to-face survey, is a survey method that is utilized when a specific target population is involved. The purpose of conducting a personal interview survey is to explore the responses of the people to gather more and deeper information (Sarah Mae Sincero, Jan 19, 2012).

A very good response is received from the participants through face to face survey. Besides, if the participants have any questions or doubts, they can be cleared and new questions can be added. Therefore, face to face survey method has been used in this study.

Field test :

After getting approval for conducting the research and before starting the final data collection, the researcher accomplished the field test with two participants. The field test was necessary as it helped the investigator to develop a final question and to collect data from participants easily. This test was performed to find out the difficulties that exist in the question. By this test, the researcher re-arranged and modified the question as required for the participants, so they can understand the question clearly.

Interview guide

a. Information Sheet and Consent Form: It is the formal statement or agreement between the researcher and the participant before conducting the interview. An information sheet refers to the detailed information about the researcher's aim objectives of the study, study duration, institution affiliation, identity of the investigator, participant's confidentiality, participant's rights, benefits, and ethical

issues. The researcher has taken permission in the consent form by signature or fingerprint from each participant before conducting the interview. In the beginning, the researcher informed the participant that their participation in this study is voluntary also the researcher has ensured the participant about the research topic and ethical approval that this interview will not be harmful to them and their identity will be kept confidential. The researcher also explained how their information will be useful to the study and the time duration. The researcher also added that they have full rights to decline to answer any questions or refuse to participate at any time. In the consent form, the researcher then took a signature and then started the interview. The consent form was given to each participant to read it out or the researcher read it verbally so that the participant listen to it during conducting the face-to-face interview. This consent form and audiotape transcript are only accessible to the supervisor and researcher. According to Deputy & Gitin 1998, audiotaping is the fundamental strategy in qualitative research.

b. Self developed interview guide: A self-developed interview guide was used in this study. These questions aimed to find out in-depth information from the participants about the experience of the person with lower limb amputation in performing activities of daily living (self care, productivity, leisure) by using assistive technology.

c. A phone recorder was used to record the interview of the participants.

d. Pen, paper, and a clipboard was used to write down observation notes.

3.7 Data management and analysis

At first in data analysis, the researcher listened to the interviews several times from the phone recorder and then the interviewed data was transcript in Bangla. The researcher has checked the transcript to make sure that all the data will available in the transcript. Then three copies were made from the transcript and were given to five people for translation from Bangla to English. Then the data was being analyzed by thematic.

After that, the investigator read all data repeatedly to find out the actual meaning of the participants' expressions of what they wanted to say and organized them. After the transcription of each data researcher again listened to the recording to ensure the validity of data. Then the researcher organized the data according to each interview question related to the objective. Reading and re-reading the data, the researcher find out initial codes and then generated themes collating the codes under each objective.

3.8 Trustworthiness

The rigorous manner was maintained to demeanor the study. This study was conducted systemically by next the steps of research under the supervision of an experienced supervisor. During the interview session and analyzing data, never tried to influence the process my value, perception, and biases. Be accepted the answer to the questions whether they were of positive or negative impression. The self developed questions that is prepared by the researcher to conduct the interview, was pre-tested. The interview questions were translated into Bengali for better communication with the participants. After each interview questionnaire were checked for possible error. 2 field surveys had been conducted by the researcher before going to the final data collection of the study.

The participants' information was coded accurately and checked by the supervisor to eliminate any possible errors. Try to keep all the participants' related information and documents confidential.

3.9 Practice implication:

From this study, health professional or those who working in rehabilitation sector will be able to know about the performance of amputee person in their daily life activities by using assistive technology and also know about their areas of barrier. Later in the practice, they will be able to work on these issues and change the practice accordingly. So that amputee people can enjoy their life in an easy way. The ideas presented can be used as reference data for carrying out new research. Moreover, the researcher can verify the accuracy of the information mentioned in the study and will provide ideas for a related study.

CHAPTER IV: Results

In this chapter, the result is analyzed by theme. Eight individuals with LLA participated in the study. Qualitative study results were analyzed by thematic analysis. By using this analysis process, the researcher organized collected data according to code and themes. The study aims to identify the experience of lower limb amputees performing activities of daily living by using assistive technology. Participants respond according to their perceptions. In this section, coding is used to understand the participants' statements and to generate the themes. All data were obtained by self-report questions. Study participants provided in-depth accounts of their experiences living with LLA by using assistive technology. LLA was portrayed as having an impact on many aspects of their lives, resulting in changes in their self-care, productivity, and leisure activity.

The objectives of the study were to explore the experience of the person with lower limb amputation in performing activities of daily living by using assistive technology.

Collating the codes the researcher has generated four potential themes to express the overall story of the data. The study has resulted in four major themes. These are as follows:

Theme 1 . "Problems in their personal care."

Theme 2 . "Needs other help to manage the workplace."

Theme 3 . "Participants face physical and environmental barriers during productivity."

Theme 4 . "Lack of accessibility and safety to participate in leisure activity."

Now, these themes are discussed below-

Theme 1: Problems in their personal care

The analysis of the research has resulted in a general description of 8 participants with lower limb amputation. Regarding this theme, most participant (n= 7) reported their problems with personal care. They explain here that they face a variety of problems in most cases of their personal care. They have a lot of trouble using the low commode. Can't wash clothes. Most of the time you have to do things with the help of others. When they can't do their personal work, they suffer from depression. One participant said,

"I live in a village. The biggest problem in rural areas is that there is no high commode system, I use what is called the Bangali bathroom. It seems that if I sit in the bathroom for 1 minute, it seems like one year to me."

Another participant said,

"I feel Massive pressure while washing clothes washing clothes seems to be very painful work."

The experiences of self-care are presented in Table 1.

Table 1: Coding and themes under objective 1

Objective 1	Question no	Coding	Theme
To explore the experience of the person with lower limb amputation in performing self-care	1, 2, 3, 4, 5	Difficulty in toileting	Theme.1 . Problems in their personal care.
		Problems in bathing	
		Can not wash clothes	
		Fear of fall in the bathroom	
		Feel frustrated during activity	

activities by using assistive technology.		Of daily living	
		Take a long time during bathing	
		Can not sit in low commod	
		Can not bend the knee for cooking	

Theme 2: Needs other help to manage workplace

This theme discusses the experience of amputee persons in the workplace or productivity. After the amputation, they could not go back to the previous work. Almost everyone has joined the work of the shop. Participants (n=5) explain that there they face many difficulties while opening the shop. People who work in tea shops can't serve customers properly. Most of the time they have to take help of others in the tasks of managing the shop. One participant explained,

"If I don't get any help while opening the shop. It is very difficult to keep crutches on the ground and open the shop with one foot." Another participant explained,

"Doing something with artificial legs is so tough. I make betel leaves and hand over what customers want, but most of the time my wife manages the stall because I cannot be served well to my customers."

Theme 3: Participants face physical and environmental barriers during productivity

While doing productive work, participants face different types of physical barriers. They indicated that they face more difficulty when taking the load. They cannot climb stairs. They (n=6) also reported pain in the shoulder and leg during working. They become fatigued when walking long distances.

One participant said,

"There is some product that has to lift. when I give them to the customer, there is a little pressure on the legs and if they weight more than 10 kg, I cannot handle it. I feel pain in the leg."

There are also some environmental barriers. Most of the participants (n= 7) reported that they could not walk on slippery roads during the rainy season. One participant said,

"The road is wet on rainy days, so I can't open the shop. Earnings are not very well."

Table 2: Coding and themes under objective 2

Objective 2	Question no.	Coding	Themes
To explore the experience of the person with lower limb amputation in participating productivity by using assistive technology.	6, 7, 8, 9	The problem in fetching water.	Theme 2 . Needs other help to manage the workplace.
		Difficulty in the opening shop by using the crutch.	
		Needs help of others to manage stall.	
		Become fatigued after a few steps.	
		Can not bear load more than 10 kg.	Theme 3 . Participants face physical and environmental barriers during productivity.
		Pain in shoulder and hand.	
		Skin irritation.	
		Feel pain in the leg when	

		bearing weight.	
		Difficult to climb the stair.	
		On a rainy day, it is impossible to walk a slippery road to run a shop.	
		Customers know about disability.	
		Help the store in many ways.	
		At the time of shop closes, people bring some items home.	
		Children help keep the store clean.	

Theme 4: Lack of accessibility and safety to participate in leisure activity

Participants described accessibility's impact on their leisure activity. They cannot engage in various leisure activities for lack of accessibility. they feel afraid to play with one foot or engage in leisure activity. Moreover, the sports venue in the village is not so accessible where disabled people can easily go. One participant stated,

“It is very difficult to play on uneven ground and meet friends on rough roads.”

Moreover, since their friends hang out far away from home, they do not feel safe to go out

and take part with them.

Another participant said,

“The place where my friends hang out is quite far from my house. The road to get there is very bad. So I spend my leisure time at home. Although I do not like it.”

Table 3: Coding and themes under objective 3

Objective 3	Question no	Coding	Themes
To explore the experience of the person with lower limb amputation when engaging in leisure activities by using assistive technology.	10, 11, 12, 13	People say many kinds of harsh words during play.	Theme 4. Lack of accessibility and safety to participate in leisure activity
		Swells in underarm when run too much.	
		Feel imbalanced on non-flat places.	
		Can not go outside to meet a friend	
		Have no leisure because of full time working	
		Sports wheelchair makes leisure good	
		Watch TV and sit at home	
		Hard to walk far and meet friends.	

		Scary to play with one foot.	
		Village sports venues are not easily accessible	

CHAPTER V: Discussion

Amputation brings a major change in an individual's life, whose image of their own body is changed; movement activities and self-care are made more difficult; the psycho-social status of the patient's life is changed as well and the performance of workplace and other activities are significantly affected. In this chapter, the results of the study are discussed about the research questions and objectives of the study. The discussion focuses on the experience of lower limb amputees in activities of daily living by using assistive technology. This study aimed to explore the experience of the person with lower limb amputation in performing activities of daily living by using assistive technology.

The results of this study showed that most of the participants face various problems in their self-care activities (e.g. can not sit in a low commode). The most common problem is toileting and washing clothes. There is no good experience using their assistive technology here. A study explains that after lower limb amputation patients reported changes caused by the amputation both in their inner life such as difficulties in daily self-care activities. (Isaksson, et al 2010).

Participants in this study experienced changes in their productivity. After amputation, they could not return to their previous profession. They have chosen a relatively easy job to make a living. But even here they have to face various problems. People who run shops or do other work have to take the help of others. This study has shown that amputation people are constantly facing different types of physical (e.g. skin irritation, pain in the shoulder and leg) and environmental barriers (e.g. slippery road) to perform

in their productivity. A study there found that patients with amputation experience a variety of physical problems such as shoulder pain, skin irritation, etc. (Gallagher P. et al 2011). Another study showed that environmental factors often intersected and had cumulative influences on participation. For example, participants using a wheelchair or experiencing balance issues while moving described snow and rain as barriers, pointing to weather as a natural environment factor. In addition, participants identified systems, services, and policy issues (eg, snow removal services), which represent a different type of environmental domain. (Hammel, J. et al, 2014).

In this study, there found that person with lower limb amputation needs others' help (e.g. fetching water, opening a shop, managing a stall) while working in their workplace with assistive technology. Without others' help, it is very difficult for them to work in the workplace. A study there found that LLA faces problems in productivity and they need family support to continue their work during productivity. (Sincero S. M. 2012). My study results also highlight leisure activities. Participants can not be able to participate in the leisure activity as before. Because the environment is not accessible for those who use technology. Moreover, they are afraid to play with one foot or a crutch. Older people usually meet or hang out with friends or acquaintances. But after amputation, they spend most of their time at home. Because they don't feel safe going out. A study found that, after amputation people can not engage in their leisure activity like before, they faced difficulty in spending their free time. Participants reported giving up social activities due to feeling fatigued or being unable to physically access the environment (e.g., navigating the environment in peoples' homes or yards, walking outdoors in the winter. (Couture et al. 2010).

There is no published research in Bangladesh about the experience of LLA people when performing ADL with AT. Amputee person faces difficulty in their daily lives. They can not perform perfectly as like as before in their activities of daily living. At the end of the findings, the researcher found that amputee persons face difficulty in toileting, bathing, washing clothes, scilicet in their self-care activity. They also faced problems in their productivity and leisure by the use of assistive technology. Although some research articles have shown that they are satisfied with the use of assistive technology, in the context of Bangladesh, they are not satisfied. There is no multidisciplinary rehabilitation program from which they will be independent in their daily life with training. If they had proper training then they would not face so many problems in their daily living activities. Previous studies found that those who were in the multidisciplinary rehabilitation program, Many more Independent Activities of Daily Living. Their experience is much better. (Batten, H. et al. 2015).

CHAPTER VI: Conclusion

6.1 Study strength:

- Useful for studying large numbers of people.
- The researcher describes audiotaping the interviews and transcribing them later for analysis.
- The researcher described using multiple coding iterations to identify emergent ideas, issues, and themes.
- The findings were explicitly stated and organized by theme with appropriate quotes to support the findings.
- The purpose of the study was clearly stated as to explore the participant perception after amputation when performing daily activities by using assistive technology.
- Strong use of patient voice throughout the study which supported analysis presented by researchers.
- Inclusion and exclusion criteria were clearly stated.
- Thematic analysis was used to analyze the findings. This is appropriate considering the research methods used for this study.
- As this study is focused on the experience of the person with an amputation, the use of qualitative methodology is appropriate.
- The researchers provide an in-depth description of the analysis process and how the themes were derived from the data.
- Ethical approval for the study was granted by the Institutional Review Board.

6.1 Study limitation:

The limitation is a matter that occurs during conducting the study. Every study has some limitations and those limitations are not in the researcher's control.

During the time of conducting this study, there were some limitations present. By considering these limitations the researcher conducted this study. The limitations are given:

- The major limitation of this study was time because it was limited for this pandemic situation.
- In the Bangladeshi context, it is a new study. There was not enough article about the experience of an amputee person by using AT in Bangladesh or this south Asian context. So, there was a lack of available information related to this study.
- This study is qualitative. Purposive sampling was used to collect data from participants. An in-depth interview was required to gain information from participants. Due to a lack of interviewing skills, it was not possible to collect data from participants through an in-depth interview as the researcher has undertaken this study for the first time.
- The researcher faced difficulty to collect the related research articles because it was not possible for her to get access to those articles.

6.2 Recommendation:

When I started to do this study, I realized that in Bangladesh, after amputation when a person got assistive technology, then they were only given some walking practice and that was provided by physiotherapists. But they do not receive any occupational therapy training on how to use this assistive technology in their daily life, that's why they cannot perform daily activities properly.

So my suggestion is to work on it later, where a multidisciplinary rehabilitation program will be run and amputation person will get proper training. And they will be taught that they can better participate in daily activities using the assistive technology and as in this study I found that participants face environmental barriers to participate in their activities of daily living, occupational therapy can help ensure an accessible environment for them.

6.3 Conclusion:

My findings highlight the varied experience on activities of daily living in three areas like, self care, productivity and leisure of person with lower limb amputation. It identifies how an individual is going about his daily life after amputation. How is his experience? It has been found that most of the participants face different types of problems in every aspect of their life. Health professionals also need to expand the scope of services beyond a physical and prosthetic focus. Removing environmental barriers, arranging their training under multidisciplinary rehabilitation team, ensure accessible environment to make their life easier. All of this is very important. Currently, such programmes are unavailable in Bangladesh.

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APPENDICES

Appendix 1: Ethical Approval:



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

Ref: CRP/BHPI/IRB/11/2021/532 Date: 18/11/2021

To
 Saila Naznin
 4th Year B.Sc. in Occupational Therapy
 Session: 2016-17, Student's ID:122160218
 BHPI, CRP, Savar, Dhaka-1343, Bangladesh


Subject: Approval of the thesis proposal **“Experience of person with lower limb amputation in performing activities of daily living by using assistive technology”** by ethics committee.

Dear Saila Naznin,
 Congratulations.
 The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application to conduct the above-mentioned dissertation, with yourself, as the principal investigator and Md. Julker Nayan as thesis supervisor. The Following documents have been reviewed and approved:

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

The purpose of the study is to explore the experience of person with lower limb amputation in performing activities of daily living by using assistive technology. The study involves use of a self- developed question that may take 22 to 25 minutes to answer the question and there is no likelihood of any harm to the participants. The members of the Ethics committee have approved the study to be conducted in the presented form at the meeting held at 9:15 AM on 15th September, 2021 at BHPI 29th IRB Meeting.

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

Best regards,

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

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Appendix 2

Self-developed question: Bangla and English

জনসংখ্যা সংক্রান্ত তথ্য

ক্রমিক নম্বর: তথ্য সংগ্রহের তারিখ:

রোগীর নাম:

এই বছরে বয়স: লিঙ্গ:

যোগাযোগের নম্বর:

শিক্ষাগত অবস্থা:.....

বৈবাহিক অবস্থা: পেশা:.....

অঙ্গচ্ছেদের প্রকার:

অঙ্গচ্ছেদের স্তর.....

পা কাটা যাওয়ার কারণ.....

অস্রোপচার এর তারিখ.....

সহায়ক প্রযুক্তির প্রকার:

সহায়ক প্রযুক্তি গ্রহণের তারিখ.....

প্রশ্নাবলী

1. পা কেটে যাওয়ার পর নিজের যত্ন নেওয়ার জন্য আপনি কি কি কাজ করেন?
2. প্রতিদিন নিজের যত্ন নেওয়ার কাজগুলো করতে এটি (ব্যবহৃত সহায়ক দ্রব্যের নাম) আপনাকে কতটুকু সাহায্য করে?
3. এই সহায়ক দ্রব্যের সাহায্য নিয়ে নিজের যত্ন নেওয়ার কাজগুলো করতে আপনার কেমন লাগে?
4. এটার সাহায্যে কোন কাজগুলো ভালোভাবে করতে পারছেন?এবং সেটার কারণ কি?
5. এটার সাহায্যে কোন কাজগুলো করতে বাধার সম্মুখীন হচ্ছেন এবং কেন?
6. আপনি কি বর্তমানে উপার্জনক্ষম কোন কাজের সাথে জড়িত আছেন? থাকলে সেটা কি? দয়া করে বর্ণনা করুন
7. কর্মক্ষেত্রে আপনাকে কি কি কাজ করতে হয়?
8. এটার সাহায্যে কর্মক্ষেত্রের কোন কাজগুলো ভালোভাবে করতে পারছেন? এবং সেটার কারণ কি?
9. এটি ব্যবহার করে কর্মক্ষেত্রে কাজ করতে আপনি কি কি অসুবিধার সম্মুখীন হয়েছেন এবং সেটার কারণ কি?
10. পা কাটার পর অবসর সময় আপনি কিভাবে কাটান?
11. অবসর সময়ের কাজে এই সহায়ক দ্রব্য ব্যবহার করে আপনার কেমন লাগে?
12. এটি ব্যবহার করে অবসর সময়ের কোন কোন কাজ ভালোভাবে করতে পারেন?
13. অবসর সময় এর কাজে এটি ব্যবহার করে কি ধরনের সমস্যার সম্মুখীন হয়েছেন এবং সেটার কারণ কি? দয়া করে বলুন
14. পা কাটা যাওয়া মানুষদের জন্য কি ধরনের পদক্ষেপ নিলে, তাদের প্রতিদিনের কাজ কর্ম করতে সহজ হবে? আপনার পরামর্শ জানতে চাই

Demographic Information

Serial no: Date of data collection:

Patient's name:

Age in this year: Gender:

Contact number: Educational status:

.....

Marital status: Occupation:

.....

Types of amputation: Level of

amputation.....

Reason for amputation..... Date of operation.....

Types of assistive technology.....

Date of receiving the assistive technology.....

Questions

1. What do you do to take care of yourself after the lower limb amputation?
2. How much does it (mentioned AT) help you to take care of yourself every day?
3. How do you feel about taking care of yourself with the help of this assistive technology?
4. What are you doing well with it? And what is the reason for that?
5. What type of barriers are you experiencing in your work using this and why?
Describe, please
6. Are you currently engaged in any productive work? If so, what is it? Please describe.
7. What do you do at the workplace?

8. What type of work do you perform well using this and why? Describe, please.
9. What kind of work you can't do well using this device and why? Describe, please.
10. How do you spend your leisure time after lower limb amputation?
11. How do you feel about using this assistive technology in your leisure time?
12. Which leisure activities can you do well using it?
13. What kind of problems have you encountered using it in your leisure time and what are the reasons for it? Please explain.
14. According to you, what steps should be taken to make daily activities easy for amputee people

Appendix 3

Information sheet and Consent Form (English and Bangla)

Information sheet introduction:

I am Saila Naznin, B.Sc. in Occupational Therapy student at Bangladesh Health Professionals Institute (BHPI), Studying in the 4th year undergraduate curriculum, 2016-2017 session.

Have to conduct a thesis as a part of this bachelor course, under the thesis supervisor of Julkar Nayan, Associate Professor, Occupational Therapy Department. The purpose of this study is to explore the experience of the person with lower limb amputation in performing activities of daily living by using assistive technology. I invite you to participate in this research, your valuable participants will strengthen this research project. All the details of the research are given in this letter, if you have any problem discussing the content after reading the newsletter or if you need to know more about something, feel free to ask questions.

Background and purpose of the study:

The study will be conducted in the community. The general purpose of this study is to explore the experience of the person with lower limb amputation in performing activities of daily living by using assistive technology. I am more interested to know about the subject. Your voluntary participation and the information you provide will help you to express your values.

Research-related information:

Before you sign the permit, all the information leading to the research project will be presented to you in detail through this participating brochure. If you wish to participate in this study you will need to sign a consent form, and if you confirm your participation you will be provided with a copy of the consent form for your preservation. A representative of a team of data collectors formed by the researcher will then go to you. Information will be collected through a question paper at any given time from anyone you ask. Your participation in this research project is optional. You do not have to participate if you do not agree. You may withdraw your participation at any time without giving any explanation to the researcher, despite your consent.

Risk and Benefits:

There are no external pressures and fees for participating in this study. You will have no risk, No and you face no physical or mental harm while answering the question.

Confidentiality:

Information about you will not be shared with anyone outside of the research team. this research project will be kept private. any information about you will have a number on it instead of your name. only the researchers will know what your number is and will lock that information up with a lock and key. it will not be shared with or given to anyone except Julkar Nayan, study supervisor.

Where to contact to know about this research?

If you want to contact about the research project or if you have any questions about the research project, it can be asked at any time now or later, in that case, you can contact the researcher on 01789986160 (Saila Naznin). This research project has been reviewed and approved by Bangladesh Health Professionals Institute, Savar Institutional Ethics Council (CRP-BHPI/IRB).

Information about withdrawal from participation:

Despite your consent, you may withdraw your participation before data analysis. However, we encourage you to give reasons. But if you do not want to be informed, mention it in the withdrawal letter.

Withdrawal from

Patients Name.....

ID Number.....

Reason for withdrawal:

.....

Participants Name:

Participants Signature:

Date:

Statement by Participants

I have been invited to participate in research titled "Experience of the person with lower limb amputation in performing activities of daily living by using assistive technology"

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Name of Participant _____

Signature of Participant _____

Date:

Statement by the researcher taking consent

I confirm that the participant was allowed to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this form has been provided to the participant.

Name of Researcher taking the consent_____

Signature of Researcher taking the consent_____

Date.....

বাংলাদেশ হেলথ প্রফেশন ইনস্টিটিউট (বিএইচপিআই)

অকুপেশনাল থেরাপি বিভাগ

সি আর পি- চাপাইন, সাভার, ঢাকা-১৩৪৩. টেলি: ০২-৭৭৪৫৪৬৪-৫, ৭৭৪১৪০৪, ফ্যাক্স: ০২-
৭৭৪৫০৬

অংশগ্রহণকারীদের তথ্য ও সম্মতিপত্র

গবেষনার বিষয়ঃ “সহায়ক দ্রব্য ব্যবহার করে দৈনন্দিন জীবনযাত্রার ক্রিয়াকলাপ সম্পাদনে নিম্ন অঙ্গবিচ্ছেদ সহ ব্যক্তির অভিজ্ঞতা”

গবেষকঃ সায়লা নাজনীন, বি এস সি ইন অকুপেশনাল থেরাপি, চতুর্থ বর্ষ, সেশনঃ ২০১৬-১৭, বাংলাদেশ হেলথ প্রফেশন ইনস্টিটিউট (বিএইচপিআই), সাভার, ঢাকা-১৩৪৩

তত্ত্বাবধায়কঃ জুলকার নায়েন, এসোসিয়েট প্রফেসর, অকুপেশনাল থেরাপি বিভাগ, বাংলাদেশ হেলথ প্রফেশন ইনস্টিটিউট।

গবেষনার স্থানঃ বাংলাদেশ হেলথ প্রফেশন ইনস্টিটিউট, পক্ষাঘাতগ্রস্তদের পুনর্বাসন কেন্দ্র (সিআরপি), সাভার এবং মিরপুর, ঢাকা, বাংলাদেশ।

তথ্যপত্র:

ভূমিকা:

আমি সায়লা নাজনীন, বাংলাদেশ হেলথ প্রফেশন ইনস্টিটিউটে, বি.এস.সি.ইন অকুপেশনাল থেরাপি বিভাগে

৪র্থ বর্ষের ছাত্রী হিসেবে স্নাতক শিক্ষাকার্যক্রম (২০১৬-২০১৭) সেশনে অধ্যয়নরত আছি। বিএইচপিআই থেকে অকুপেশনাল থেরাপি বি.এস.সি শিক্ষাকার্যক্রমটি সম্পন্ন করার জন্য একটি গবেষণা প্রকল্প পরিচালনা করা বাধ্যতামূলক। এই গবেষণা প্রকল্পটি অকুপেশনাল থেরাপি বিভাগের জুলকার নায়েন, এসোসিয়েট প্রফেসর এর তত্ত্বাবধানে সম্পন্ন করা হবে। এই গবেষণাটির উদ্দেশ্য হলো পা হারানো মানুষদের দৈনন্দিন কাজের অভিজ্ঞতা কেমন সেটা বের করা। আমি আপনাকে এই গবেষণায় অংশগ্রহণের জন্য আমন্ত্রণ জানাচ্ছি, আপনার মূল্যবান অংশগ্রহণ এই গবেষণা প্রকল্পকে জোরদার করবে। গবেষণার সমস্ত বিস্তারিত এই তথ্যপত্রে দেওয়া আছে, আপনার যদি তথ্যপত্রটি পড়ে কোন বিষয়বস্তু বুঝতে সমস্যা হয় অথবা যদি কোন কিছু সম্পর্কে আরো বেশি জানার প্রয়োজন হয়, তবে নির্দিধায় প্রশ্ন করতে পারেন।

গবেষনার প্রেক্ষাপট ও উদ্দেশ্য:

এই গবেষণাটি সমাজে বসবাস করে এমন মানুষদের নিয়ে করা হবে। এই গবেষণাটির সাধারণ উদ্দেশ্য হলো, পা হারানো মানুষদের দৈনন্দিন কাজের অভিজ্ঞতা কেমন সেটা বের করা। আমি বিষয় সম্পর্কে জানতে বেশি আগ্রহী, কারণ বাংলাদেশে এই বিষয় নিয়ে কোন গবেষণা হয়নি। আপনার স্বেচ্ছায় অংশগ্রহণের এবং আপনার দেওয়া তথ্যের মাধ্যমে আপনার জীবনযাত্রার মান প্রকাশ করতে সুবিধা হবে।

এই গবেষণা কর্মটিতে অংশগ্রহণের সাথে সম্পৃক্ত বিষয়সমূহ কি সে সম্পর্কে জানা যাক:

আপনার থেকে অনুমতি পত্রে স্বাক্ষর নেবার আগে এই অংশগ্রহণকারী তথ্যপত্রের মাধ্যমে গবেষণা প্রকল্পটির পরিচালনা করার তথ্য সমূহ বিস্তারিত ভাবে আপনার কাছে উপস্থাপন করা হবে। আপনি যদি এই গবেষণায় অংশগ্রহণ করতে চান হলে সম্মতিপত্র আপনাকে স্বাক্ষর করতে হবে, আপনি অংশগ্রহণ নিশ্চিত করলে আপনার সংরক্ষণের জন্য সম্মতিপত্রটির একটি অনুলিপি দিয়ে দেওয়া হবে। পরবর্তীতে গবেষক কর্তৃক গঠিত তথ্য-উপাত্ত সংগ্রহের একটি দলের প্রতিনিধি আপনার কাছে যাবে। আপনার থেকে চেয়ে নেওয়া যে কোন একটি নির্দিষ্ট সময়ে একটি প্রশ্ন পত্রের মাধ্যমে তথ্য সংগ্রহ করা হবে। যদি আপনি সম্মতি প্রদান না করেন তবে আপনাকে অংশগ্রহণ করতে হবে না। আপনি সম্মতি প্রদান করা সত্ত্বেও যেকোনো সময় গবেষককে কোন ব্যাখ্যা প্রদান করা ছাড়াই নিজের অংশগ্রহণ প্রত্যাহার করতে পারবেন।

অংশগ্রহণের সুবিধা ও ঝুঁকিসমূহ:

এই গবেষণায় অংশগ্রহণের জন্য কোন বাহ্যিক চাপ এবং পারিশ্রমিক নেই। আপনার কোন ঝুঁকি থাকবে না এবং প্রশ্নের উত্তর দেবার সময় আপনি কোন প্রকার শারীরিক বা মানসিক ক্ষতির সম্মুখীন হবেন না।

তথ্যের গোপনীয়তা :

এই সম্মতিপত্রে স্বাক্ষর করার মধ্য দিয়ে, আপনি এই গবেষণা প্রকল্পে জড়িত গবেষণা কর্মীকে আপনার ব্যক্তিগত তথ্য সংগ্রহ ও ব্যবহার করার অনুমতি দিয়েছেন। যেমন- নাম, বয়স, লিঙ্গ, বৈবাহিক আবস্থা, আয়, মোবাইল নাম্বার ইত্যাদি। এই গবেষণা প্রকল্পের জন্য সংগৃহীত যেকোনো তথ্য, যা আপনাকে শনাক্ত করতে পারবে তা গোপনীয় থাকবে। আপনার সম্পর্কে সংগৃহীত তথ্য সাংকেতিক ভাবে উল্লেখ করা হবে। শুধুমাত্র সংশ্লিষ্ট গবেষক এবং সুপারভাইজার সরাসরি এই তথ্যের ভিতরে ঢুকতে এবং চিহ্নিত করতে সক্ষম হবেন। সাংকেতিক উপায়ে চিহ্নিত ডেটা পরবর্তী ডেটা বিশ্লেষণের জন্য ব্যবহার করা হবে। তথ্য পত্র একটি তালাযুক্ত বন্ধ স্থানে রাখা হবে। তথ্যের ইলেকট্রনিক সংস্করণ বিএইচপিআই-এর অকুপেশনাল থেরাপি বিভাগ এবং গবেষকের ব্যক্তিগত ল্যাপটপে সংরক্ষণ করা

হবে। যে কোনো প্রকাশনা এবং উপস্থাপনায়, তথ্য এমনভাবে প্রদান করা হবে যাতে আপনার তথ্য গোপন থাকবে।

এই গবেষণা সম্পর্কে জানতে কোথায় যোগাযোগ করতে হবে?

গবেষণা প্রকল্প টি বিষয়ে যোগাযোগ করতে চাইলে অথবা গবেষণা প্রকল্প টি সম্পর্কে কোন প্রশ্ন থাকলে এখন অথবা পরবর্তীতে যেকোনো সময়ে তা জিজ্ঞাসা করা যাবে, সেক্ষেত্রে আপনি গবেষকের সাথে উল্লেখিত নাম্বারে ০১৭৮৯৯৮৬১৬০ (সায়লা নাজনীন) যোগাযোগ করতে পারেন। এই গবেষণা প্রকল্প টি বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউট, সাতারের প্রাতিষ্ঠানিক নৈতিকতা পরিষদ থেকে (সিআরপি-বিএইচপিআই/আইআরবি) পর্যালোচিত ও অনুমোদিত হয়েছে।

অংশগ্রহণ থেকে প্রত্যাহার সম্পর্কে তথ্য:

আপনার সম্মতি সত্ত্বে, আপনি ডেটা বিশ্লেষণের আগে আপনার অংশগ্রহণ প্রত্যাহার করতে পারেন। তবে আমরা আপনাকে কারণ জানানোর জন্য উৎসাহিত করছি। কিন্তু যদি আপনি জানাতে না চান, প্রত্যাহার পত্রে এটি উল্লেখ করবেন।

অংশগ্রহণকারীর নামঃ	তারিখঃ
অংশগ্রহণকারীর সাক্ষরঃ	তারিখঃ

অংশগ্রহণকারীর প্রত্যাহারপত্র

(শুধুমাত্র স্বেচ্ছায় প্রত্যাহারের জন্য প্রযোজ্য)

অংশগ্রহণকারীর নাম.....

প্রত্যাহার করার কারণঃ

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পূর্ববর্তী তথ্য ব্যবহারের অনুমতি থাকবে কিনা?

হ্যাঁ অথবা না

অংশগ্রহণকারীর সাক্ষরঃ	তারিখঃ
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Appendix 4

Table A. Participant characteristics:

Participants Characteristics (N=8)	Number (N)
Mean/Median age	40 (range 22-50)
Male/Female	6/2
Level of amputation	
Transtibial	1
Transfemoral	6
Bilateral	1
Marital status (married/unmarried)	8/0
Education	
Illiterate	2
Signature	2
Primary	3
Secondary	0
Higher secondary	1
Graduation	
Post-graduation	
Years since amputation	
Assistive Technology	Mean: 6 (range 2-12)
Prosthetic limb	3
Crutch	4
Wheelchair	1