QUALITY OF LIFE AMONG THE RANA PLAZA VICTIM PATIENTS

Saifuddin Ahmed

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

Roll No. : 1596

Reg. No. : 1904

Session: 2010-2011

BHPI, CRP, Savar, Dhaka- 1343

Bangladesh Health Professions Institute (BHPI)

Department of Physiotherapy

CRP, Savar, Dhaka-1343

Bangladesh

August’ 2015

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

QUALITY OF LIFE AMONG THE RANA PLAZA VICTIM PATIENTS

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

……..
Md. Shofiqul Islam
Assistant Professor
Department of Physiotherapy
BHPI, CRP, Savar, Dhaka
Supervisor

…….....
Md. Sohrab Hossain
Associate Professor
Department of the Physiotherapy
BHPI & Head of the Programs
CRP, Savar, Dhaka

…….
Mohammad Habibur Rahman
Assistant Professor
Department of Physiotherapy
BHPI, CRP, Savar, Dhaka

…….
Ehsanur Rahman
Assistant Professor
Department of Physiotherapy
BHPI, CRP, Savar, Dhaka

…….....
Md. Obaidul Haque
Associate Professor & Head
Department of Physiotherapy
BHPI, CRP, Savar, Dhaka

DECLARATION

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

Signature: **Date:**

Saifuddin Ahmed
Bachelor of Science in Physiotherapy (B.Sc. PT)
Roll No. : 1596
Reg. No. : 1904
Session: 2010-2011
BHPI, CRP, Savar, Dhaka- 1343

Acknowledgement

First of all, I am grateful to almighty Allah for enabling me to complete this dissertation. I am extremely grateful to my honorable and praiseworthy supervisor Md. Shofiqul Islam, Assistant Professor, Department of Physiotherapy, BHPI, for his excellent guidance from the very beginning to winding up of this study. I am indebted to Md. Obaidul Haque, Associate Professor and Head, Department of Physiotherapy, BHPI, Md. Sohrab Hossain, Associate Professor and Head of Programs, CRP and Mohammad Habibur Rahman, Assistant Professor, Department of Physiotherapy, BHPI, for giving me the idea to select this title. I would like to express my sincere thanks and deepest regards to Professor Dr. M.A. Quader, Principal, BHPI. I am grateful to Ehsanur Rahman, Assistant Professor, Department of Physiotherapy BHPI and Muhammad Millat Hossain, Senior Lecture, Department of Physiotherapy BHPI, they helped me a lot to conducting this research.

I would like to offer special thanks to, Mostafizur Rahman, Abdullah Shuchorit Dibbi, A.T.M. Hafizzur Rahman, Shorna, S.M. Joynul Abedin & many others for their valuable time, guidance and help throughout the study. I am very much thankful to Riaz for helping me from the beginning to winding up the study. I am thankful to all the staff of the Bangladesh Health Professions Institute (BHPI) Library for their cordial help to find out important books and web address in the computer.

In fact, no amount of thanks is enough to acknowledge the role played by the study participants in making this dream a reality. Lastly thanks to all who always are my well-wisher and besides me as friend without any expectation.

Abstract

The study identifies the quality of life among the Rana plaza victim patients at Savar, Dhaka at 2015. It also finds out the association between demographic factors (age, sex, income, diagnosis) contributing the quality of life (Physical, psychological social and environmental domain) among the survivors. The study was conducted through Cross-sectional study design among 50 Rana Plaza survivors who were selected by purposive comprehensive sampling technique from savar upozilla by a structured questionnaire with face to face interview. World Health Organization Quality of Life Scale- 100 (WHOQOL-100) was used to conduct the study. In case of, overall quality of life of RANA Plaza victims, about 24% of them have neither poor nor good quality of life; therefore about 36% of them have very poor type of quality of life at the period of 24 months incident. There was a significant association with survivors' type of disabilities, diagnosis, current occupation and their quality of life that means the quality of life is quiet better for person with temporary disabilities rather than person with permanent disabilities. Those who are in jobs have good quality of life than unemployed survivors. However, there are no associations with age, sex, educational background, and satisfaction quality of life. The government and concerned authorities should come forward to take necessary measures to prevent any type of manmade disasters like-building collapse, fire etc. through an appropriate collaboration from top to bottom as well as should develop a sustainable follow-up system after any disaster.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Acronyms

AFB : Arm Forces Bangladesh

BGMEA : Bangladesh Garment Manufacturers and Exporters Association

BGB : Border Guard Bangladesh

BMRC : Bangladesh Medical Research Council

CDD : Centre for Disability in Development

CID : Criminal Investigation Department

CMH : Combined Military Hospital

CPD : Centre for Policy Dialogue

CRP : Centre for Rehabilitation of the Paralysed

EMCH : Enam Medical College and Hospital

HRQOL : Health Related Quality of Life

IRB : Institutional Review Board

ILO : International Labor Organization

IT : Information Technology

QOL : Quality of Life

NITOR : National Institute of Traumatology and Orthopedic Rehabilitation

NGOs : Non-Government Organizations

PWDs : Person With Disabilities

RAB : Rapid Action Battalions

RAJUK : Rajdhani Unnayan Kartripakkha

RMG : Readymade Garments

SPSS : Statistical Package for Social Science

WHO : World Health Organization

WHOQOL : World Health Organization Quality of Life

CHAPTER I INTRODUCTION

1.1 Background

Since 1970s there is remarkable change in development of readymade garments industry in Bangladesh. On the other hand readymade garments industry has provided lots of opportunity to reduce unemployment in Bangladesh. The industry has provided employment to nearly 2.8 million workers (BGMEA, 2009). There is most of number are women from the rural areas and they are very poor. Over 90 percent of the production workers employed in RMG factories are women. The annual growth rate of RMG export industries in Indonesia (31.2%), Mauritius (23.8%) & Dominican Republic (21.1%) compares extremely high with that of Bangladesh (81.3%) over the 1980-1987 periods of time (Bhuiyan, 2012). Recent reports talk about 5,000 garment factories in Bangladesh and 3.6 million employees. After China and Italy, it is the third-biggest exporter of clothes in the world (Alam & Hossain, 2013). The readymade garment industry (RMG) has played a revolutionary role in the development of the industrial sector of Bangladesh.

Bangladesh is a one of the poorest and developing country in the world. Bangladesh is containing over 164.7 million peoples and is listed as the 8th most populated country. The agriculture sector is main occupational area in this country and most of the people are still occupied in this sector. However, per capita land is very limited. Most of our farmers are the marginal farmers and other rural workforce includes in day labors. People also migrate to urban areas to connect with industries such as handicrafts, garments etc. This gives us some perspectives of the social mobility with the entry of women in the formal labor market and transition from the private to male dominated community area (Ullah & Chowdhury, 2010). This opportunity is stimulating them to earn lowest amount money to fulfill their daily needs. Absolutely, it makes them employed as a male or female and their livelihood is quite better than rural.

A major migration of people from rural areas to cities causes a rise in urban poverty. The population is working in high risk urban areas like garments factory for their livelihood. As a result, they face many problems including hazardous accident like fire, collapse and poisoning etc. For this some sad and tragic incidents occurs due to this over

population. Also there is owner careless attitude, absence of regularity authority. As the job is mostly the sole income of their family, they have a tendency to take this type of risk. In Bangladesh, people are familiar with building collapse incidents; the building collapsing history is not unknown with the people who are engaging in manufacturing sector. Garments factory related uncertain instants are going to be horrible day by day. The Tajmeen factory fire, Bipail builing collapse, Tejgaon building collapse, Sankharibazar building collapse is are some of the tragedies now.

On 24th April 2013, Bangladesh experienced a tragic incidence and it was the most horrific incidence than previous which is called "Rana Plaza Tragedy". It is one of the worst tragedies of building collapse in the history of the world which took more than one thousand lives. About 1129 people died due to collapse of the building and more than 2000 people are living with or without disabilities in Bangladesh (WHO, 2013). Rana Plaza was a nine-storied building in Savar that housed four garment factories with a variety of shops. Although Rana Plaza had a permit to build a five- storied building for shops and residential accommodation, the owner made it nine storied. The Bangladeshi news media reported that inspection teams discovered cracks in the structure of Rana Plaza on Tuesday (the day before collapse). Shops and a bank branch on the lower floors were immediately closed (Malkin, 2014). However, the owners of the garment factories on the upper floors ordered employees to work on Wednesday (the day of collapse), despite the safety risks. Labor activists combed the wreckage on Wednesday afternoon and discovered labels and production records suggesting that the factories were producing garments for major European and American brands (Ahad, 2013). Jahangir (2013) said in an article that after Rana plaza incident, the rescue teams through their extraordinary efforts succeeded to save 2465 lives from the rubbles. It is estimated that roughly 3122 workers were trapped inside. According to WHO report it is found that about 1127 survivors died at the spot and hospital, about 1,885 people were discharged by May 2, 2013 (after one week) with receiving immediate treatments from different hospitals. Centre for the Rehabilitation of the Paralysed (CRP) has admitted some injured (fracture, amputation, spinal cord injury etc.) survivors and accomplished rehabilitation service. After this horrific disaster the government and international bodies have given fund for the injured employees of Rana plaza but only a few

organizations have worked with them for their rehabilitation and reintegration. We are experienced with the organizational behavior after a disastrous incident. Often organizations are busy with their immediate responses but it is more difficult and challenging to develop reintegration and sustainability. In Bangladesh, there has no statistic about quality of life after supports, especially after medical based support. Prior research findings indicate that the earthquake related building collapse survivors had significantly lower scores in the psychological and environmental domains of WHOQOL-BREF than the individuals who were not exposed to a disaster (Ceyhan & Aykut, 2007). There has no any statistic about injured person's quality of life after any incidence like building collapse. Therefore, the researcher is interested to find out the wellbeing of the existing survivors who have experiences of that horrific tragedy (Rana plaza), might be affected positively or negatively on their physical, mental, psychosocial quality of life. It determinates the satisfaction over their life in difference aspects.

1.2 Rationale

After any catastrophe national and international welfare organizations are ready to provide fund for immediate response or early recovery but a very few number of organizations follow the sustainability development or empowerment of the injured or disabled people. The survivors suffer a lot after any catastrophe especially they suffer with post-traumatic stress related disorder as well as job dissatisfaction. In this study the investigator is interested to find out the survivors quality of life after reintegration with the community. The result could be ensured us about survivors' level of satisfaction on their life which has significance to know because they have got different source of supports after this incidence. However, Investigator feels that there have still limitations to search about survivors' quality of life after any uncertain natural or manmade disaster. Investigator is interested to find out survivors day to day lives, wellbeing and satisfaction in their community after any injuries and psychological trauma. In this case, usually the survivors remain in a state of 'shock' because most of them cannot go back to their job and also get affected by other influences like- jobless, family burden. However, it has to be taken into consideration that the survivors get enough monetary support during this crisis period from foreign agencies and national level. The survivors of Rana plaza disaster are still having mild to severe disabilities, therefore it is essential to investigate their quality of life. It could be making aware for further any hazardous incident (like earthquake) and predicting impact. It could help to take precautionary management for survivors. Still now there is no statistics about their social, physical or economical status after returning to the community. For this reason, the investigator is interested to know about their physical, psychological, social and environmental quality of life separately to find out the status of their life after this terrible incident.

1.3 Objectives

General objectives

To find out the association between demographic factors (age, sex, income, diagnosis), types of disability, donation and quality of life among the survivors.

Specific objectives

To find out the quality of life and level of health satisfaction among the survivors of building collapse incident.

1.4 Research Question

What are the quality of life and level of health satisfaction among the Rana Plaza victim patients?

CHAPTER - II LITERATURE REVIEW

Buildings are constructed with structural integrity to ensure that catastrophic failure does not occur, which can result in injuries, severe damage, death, or monetary losses. Structural integrity must always be considered in engineering when designing buildings, gears or transmissions, support structures, mechanical components, or any other item that may bear a load (Samuel & Weir, 2006). The entire structure can support its load without failure due to weak links (Toor, 2008). When a weak link breaks, then it can put more stress on other parts of the structure, leading to cascading failure (National Research Council, 1985). After a building collapse, lots of people die and many get severe injury. In China, Wang (2010) mentioned in a study that the injured survivors suffered lot with their quality of life. Especially, they have poor quality of life with psychosocial and environmental aspect. There is a significant relation between building collapsing incidence and its survivor's quality of life due to their sudden physical and psychosocial trauma. Studies mentioned that after these types of catastrophe, huge number of survivors did not engage on their occupation and suffered acute/post-traumatic stress disorders.

In Nigeria building collapses incidence is very frequent owing to various reasons. The frequency of building collapses recently and past has become a major issue in the development of the country. The frequency of their occurrences and the magnitude of the losses being recorded in terms of lives and properties are becoming worrisome and alarming. The spate and frequency of occurrence have become major sources of concern not only for the governments but also for all well-meaning Nigerians and most especially the stakeholders in the building industry in the country as the magnitudes of the incidents are becoming unprecedented (Ayedun et al. 2012). Even though the proportion of buildings that collapse is very small compared with the vast majority that are in use, the human and material wastes associated with such building collapses apart from psychological disturbances often impose on both the affected residents of such houses and their owners also constitute huge loss to the nation at large.

Building collapses are very common over the world particularly due to earthquake or

Building collapses are very common over the world particularly due to earthquake or structural failure. Collapses are often blamed on the use of substandard materials and poor workmanship, with buildings going up without adequate supervision or licenses. Over the world most common cause of building collapse is structure failure (Michael & Razak, 2013).

Bhattacharya (2013) has mentioned in an article paper that at least 11 people were killed and five people injured when two apartments building collapsed in Vadodara, the northwestern state of Gujarat on August 2013. The incidence took place between 4:30 am and 4:45 am, a second building collapsed too within one hour time. The buildings were constructed in 2012. There was a problem with structural error and after this incident; people have suffered a lot with their injured livelihood.

Shah (2013) said in The Wall of street Journal that about 17 people died in building collapse on July 2014 in Secunderabad (South India). A garment factory in Bhiwandi (around 20 miles away from Mumbai) collapsed after a week and killing six people. The deadliest case in India in 2014 occurred in then also near Mumbai, when 74 people, including 18 children, were killed after an illegally constructed residential building collapsed. However, in South Asian aspect, more than 1,100 people died on April 2014, when a factory complex collapsed in neighboring Bangladesh. It was one of the world's worst industrial accidents. Turkey is an overcrowded country with a population of 12 million. The country is vulnerable to major earthquake. Turkey has a building code, which is as stringent as California's but it is rarely enforced. This cheaply built, illegal housing lies at the heart of the disaster, it has said by engineering experts. It accounts for why so many houses just crumpled like packs of cards and why older or more solid buildings remained intact finally resulting death and injury. Building collapsed in Mumbai on September 27, 2013, in that time at least 61 people died. In April, scores of people were killed when an illegal multistory building collapsed in Thane, a city in the Mumbai region. In India the ‘Housing rights groups’ have said that many old buildings in the city are rundown and neglected, while newer ones were often built using substandard materials and have structural problems.

In Lithuania building collapses incidence is very frequent owing to various reasons. The frequency of building collapses recently and past has become a major issue in the development of the country. The frequency of their occurrences and the magnitude of the losses being recorded in terms of lives and properties are becoming worrisome and alarming. The spate and frequency of occurrence have become major sources of concern not only for the governments but also for all well-meaning Lithuanians and most especially the stakeholders in the building industry in the country as the magnitudes of the incidents are becoming unprecedented (Ayedun et al., 2012).

On 4th January 2014, The Times of India (newspaper) has mentioned that about fourteen people were killed when an under-construction five-storied residential building caved in Cancona town near Goa. Personnel of Goa fire and emergency services and Army carried out rescue operations overnight to look for more survivors but as 17 hours passed since the mishap and due to huge pile of debris, the chances of finding anybody alive were getting slimmer with the passage of time.

CNN reporters (Quinones, 2013) in Colombia have stated that a 22-story residential building collapsed in Colombia's second-largest city, killing one person, injuring two and leaving 10 others unaccounted for, authorities said Sunday (October 13, 2013). The building collapsed on Saturday night in Medellin, according to the office of Claudia Patricia Restrepo, (the temporary mayor). Indeed of the official rescue team evacuated 24 families from the building. At that time, Construction workers were inside to the collapse building among the missing one. After the incident, authorities evacuated residents of nearby buildings as a security measure. At the period of rescue and recovery, police, fire service department, psychologists and the Red Cross society were at the site and involved until full recovery. In India, newspaper reporters have added in electronic media that at least one person was killed when a residential building collapsed in New Delhi in 2013. The fire chief had declared that the four-story building in the northern part of the city was more than 50 years old. He had aware the residence people immediately, so far the died list had redacted. He also added that two people were hospitalized with injuries. Authorities said digging on an adjacent plot of land for a new apartment building could have weakened the building's foundation. An inquiry has been ordered to determine the exact cause. This crumbling building is one of many that have

caused calamity recently (Sing, 2013). Building collapsed in Mumbai on September 27, 2013, in that time at least 61 people died. In April, scores of people were killed when an illegal multistory building collapsed in Thane, a city in the Mumbai region. In India the 'Housing rights groups' have said that many old buildings in the city are rundown and neglected, while newer ones were often built using substandard materials and have structural problems. In Bhopal, India on April 26, 2013 a hospital female word had collapsed and at least 14 people were injured through this consequence (Sing, 2013).

Turkey is an overcrowded country with a population of 12 million. The country is vulnerable to major earthquake. Turkey has a building code, which is as stringent as California's but it is rarely enforced. This cheaply built, illegal housing lies at the heart of the disaster, it has said by engineering experts. It accounts for why so many houses just crumpled like packs of cards and why older or more solid buildings remained intact finally resulting death and injury. In Turkey the rate of urbanization has been very high and unfortunately the control and supervision of the building quality has not been as good as it should be. Turkey's Chamber of Commerce estimates that some 65% of all buildings are constructed without a permit or with scant attention to building regulations. Their situation is like Bangladesh (Ayedun et al., 2012).

Therefore, the Turkey people are staying in more risk zone rather than Bangladesh because of their geographical location and economical situation. A report on South Korea disclosed that a mall (Sampoong Department Store) in Seoul (South Korea) collapsed with an estimated 1, 500 people inside on June 29, 1995. In less than 20 seconds, a section of the five-storied building came crashing down into the basement and estimated that killing over 500 people. The collapse of the building, which was constructed using steel-reinforcement concrete pillars, was blamed on faculty construction. It was originally designed as an office building with four floors, and was built in 1987. When it was later converted to a departmental store, support columns were cut away to accommodate escalators. The reporters have written that the owner carried out these modifications over the objections of the original contractors. A fifth floor was eventually added to house a restaurant. It involved installation of a heavy concrete slab. A heavy air conditioning unit was added to the building's roof, exceeding the design load. Haphazard relocation of the air condition unit damaged the roof

structure. Prior to its collapse, the building showed cracking due to the overloading produced by the faulty-engineer fifth floor and air-condition unit placement. The incidence had taken lots of lives and 6 had never found, in fact of about 937 had severely injury and taking long period of time for recovery.

Bangladesh is located in a tectonically active region close to the plate boundaries. Large earthquakes (M≥7) have occurred in the past. Dhaka, Chittagong cities may be subjected to high magnitude and intensity in case of earth shaking. Buildings lack quality of construction and earthquake resistant features. Collapsed buildings are the main reason for damage and casualties in an earthquake. Post-disaster management is critically important for the rescue and recovery of wounded people from the collapsed buildings. This may easily collapse in the event of additional loading from an earthquake. Researcher comprises different issues of emergency response from different isolated building collapse events in Dhaka city (Watanabe, 2007).

A six storied building in old city collapsed at 4 am in Shakhari Bazar on june 9, 2004. Bottom three stories were crushed while upper three stories remained intact. Three stories were added (unauthorized) over an old three-storied building made of bricks and lime mortar and these result 19 deaths and 11 serious injuries. Armed Forces, Fire Service, local volunteers were principally involved in the rescue and clearing operation. Debris removal have completed on June 11, 2004 (Al-Hussaini & Hossain, 2008). The owner added three floors to the original three-story building and it was about 200 years old. Some of the floors crumbled and whole building was collapsed at the time of incident. Initially people from the neighbor, then Fire Service and military team conducted the rescue operation. They mainly used hammers and crowbars to dig the debris to rescue the trapped victims. It is a dense populated area at Shakhari bazar of old town where the spaces between buildings are very narrow. Heavy equipment could not reach at the scene because of narrow roads and dense population. Even ambulances could not collect the injured personnel from the accident spot. Rescuers had to depend only on manpower and small tools. All of these reasons delayed the SAR operation and increased the death toll of the trapped victims. A totally unauthorized 9 storied concrete frame building in the outskirts of Dhaka on April 11, 2005 at 1 am has collapsed. Approximately 61 deaths and 86 injured (Al-Hussaini, 2008). Local people started

rescue and were quickly followed by arrival of Fire Service, Police, Armed forces and Rapid Action Battalion (RAB). Later medical teams from army and non-government organizations provided first aid and hospitalization to the injured. Rescue teams started rescue operation with hand-operated manual and mechanical concrete breaking tools. One day later, heavy equipment arrived from different government and private sources. Within a day, 89 people were rescued. Rescue and clearing operations (under the command of Armed Forces) completed on April 19, 2005.

It has found that on daily newspaper that the Illegal and faulty construction of the building added with a boiler explosion led to the incident of the collapse. Initially Fire Services and local people then military took over the control of Search and Rescue SAR operation coordination with RAB, APBN, GOs and NGOs. After removing a portion of slab that part was searched thoroughly for any dead body or any survivor. Most of the rescue equipment was not readily available for such kind of operation. There were no access or approach roads available to allow the heavy rescue equipment. Most surprisingly there was no standing government order assigning any organization for the leading responsibility of control and coordination. Therefore, there was no information about the availability of required equipment with different organizations for this kind of operation. It took 9 days for the successful completion of the operation due to all the factors written above.

A three-decade-old 5-stories building of Phoenix Group collapsed in the city's Tejgaon industrial area at about 10.30 am on 25th Feb 2006. After this incidence, it has reported that about 22 are total died and 50 are severely injured. The building had a foundation for three story but the owners went for further vertical expansion and in the process imposed more load than the building's foundation could with stand. Unauthorized renovations to convert the upper story of the building into a 500-bed private hospital led to this disaster. Initially Fire Services and local people then military took over the control of SAR operation coordination with RAB, APBN, GOs and NGOs. Total operation was carried out in 4 phases. After removing a portion of slab that part was searched thoroughly for any dead body or any survivor. A revolving excavator was used for tearing apart the mangled tin, brick pieces from the surface of the heap of debris. Another wheel-run excavator cleared the rubbles of the front part while a huge crane

was gearing up to start working on the main road. A hundred army men advanced in line, getting hold of a broken tin or a piece of beam, going back and throwing them in the vacant space on the left side of the building. Grill machines, gas cutters, pneumatic hammers, pickaxes and hammers were used after removing the big roof slabs. During Phoenix building collapse beside govt. team some other Govt. organizations joined the rescue effort such as DCC, RAJUK, RHD, and DESA. Traffic was completely halted for five days in a major road. 48 people were rescued from underneath the rubble, 45 on the first day, one four days later. Rescue and clearing operations (under the command of Armed Forces) completed on March 2, 2006. According to the information from the Enam Medical College and Hospital (EMCH), a total of 1,800 workers have taken primary treatment there, of which 1,000 workers were released within a week. Among the rest, another 700 were released within one to two months. A total of 34 injured workers who needed special treatment were shifted to Centre for Rehabilitation of the Paralysed (CRP), Savar Combined Military Hospital (CMH) and Orthopaedic Hospital, Dhaka. A total of 339 workers were severely injured and had to undergo major operation(s) and long-term treatment. Most of these workers were admitted in different medical institutes including Orthopaedic Hospital, Savar CMH, Dhaka Medical College, EMCH, CRP, and Dip Clinic in Savar. According to the information from the monitoring team, severely injured workers have eight types of wounds which include hand injury, leg injury, traumatized, severe backbone injury, head injury, pelvic fracture, crush injury and compartmental syndrome and others. The extent of severity of the injuries can be perceived from the number of cases in which people lost hands or legs or incurred severe backbone injuries. Male workers experienced most of these wounds proportionately, while injuries of the female workers can be categorized under specific types such as in legs and hands. Over 50 per cent female workers ended up with almost disabled hands and legs. In other words, these workers seem to have lost their earning ability by working in the industrial sector (Monitoring the Rana Plaza Follow-ups, 2013).

However, rehabilitation centers worked with those survivors to rehabilitate and reintegrate on their mainstream livelihood. Rehabilitation process includes the physiotherapy and occupational therapy treatments, vocational training and community

reintegration. The survivors have completed all these process. In vocational training centre, they have taken training in shop-keeping, tailoring, computers and mechanical training. The training subject depended upon educational background of survivors. After finishing the training, survivors have reintegrated to their community with their job priority. After all, it has become possible for only those have temporary disabilities. However, some of the amputee survivors are in treatments also.

In general, quality of life (QOL) is the perceived quality of an individual's daily life that is an assessment of their well-being or lack thereof. This includes all emotional, social and physical aspects of the individual's life. Health-related quality of life (HRQOL) is an assessment of how the individual's well-being may be affected over time by a disease, disability or disorder. Quality of life is a model of integrated objective and subjective indicators. It is a broad range of life domains, and individual values. It takes account of concerns that externally derived norms should not be applied without reference to individual differences. Factors that play a role in quality of life vary according to personal preferences, but they often include financial security, job satisfaction, family life, health and safety (WHO, 2013).

The Quality of life healthcare (WHO, 2012) it is noted that the concept of health-related quality of life acknowledges that subjects (like people, patient and survivors) put their actual situation in relation to their personal expectation. The latter can vary over time, and react to external influences such as length and severity of illness, family support, etc. As with any situation involving multiple perspectives, patients' and data collectors' rating of the same objective situation have been found to differ significantly. Consequently, health-related quality of life is now usually assessed using patient questionnaires. These are often multidimensional and cover physical, social, emotional, cognitive, work- or role-related, and possibly spiritual aspects as well as a wide variety of disease related symptoms, therapy induced side effects, and even the financial impact of medical conditions in any trouble situation. Although often used interchangeably with the measurement of health status, both health-related quality of life and health status measure different concepts (CDC, 2011).

The world health organization Quality of Life (WHOQOL) project was initiated in 1991. It assesses the individual's perceptions in the context of their culture and value systems and their personal goals, standards and concerns. The WHOQOL instruments were developed collaboratively in a number of centers worldwide and have been widely field-tested. The scale is using rapidly in health sector. The WHOQOL-BREF instrument comprises 26 items, which measure the following broad domains: physical health, psychological health, social relationships, and environment. The WHOQOL-BREF is a shorter version of the original instrument that may be more convenient for use in large research studies or clinical trials. The WHOQOL-100 is a rating scale where survivors ensured the quality from 0 to 100. Better score defined better quality of life.

WHO (2014) mentioned that the WHOQOL assessments has value where disease prognosis is likely to involve only partial recovery or remission, admin which treatment may be more palliative than curative. Therefore, the WHOQOL assessments will allow detailed quality of life data to be gathered on a particular population, facilitating the understanding of diseases, and the development of treatment methods. The international epidemiological studies that would be enabled by instruments such as the WHOQOL-100 and the WHOQOL-BREF will make it possible to carry out multi-centre quality of life research, and to compare results obtained in different centers. Such research has important benefits, permitting rehabilitation) and other related variables.

China is the most vulnerable country with earthquake and it’s very frequent incidence for them. In China, after earthquake related building collapse, finding said that the survivors had a great impact on their quality of life (physical, psychological and environmental domain) after 10 months of the collapse. This indicated that relief and welfare aid is important but could not substitute for mental health intervention. It also reminds us that the effects of traumatic experience should not be simply equated to loss of assets or any specific personal belongings. On the other hand, social relationship domain has no significant change among the survivors. Psychosocial aspects of disasters have received increasing attention in the past decades. However, while obvious tendencies have emerged in the literature, disparities and even contradictions are still predominant in the reported results (Wang et al., 2010).

Another study found that the survivors of earthquake with building collapse experienced with severe post-traumatic stress disorder and it kept an impact on their quality of life. In a Marama study, it is said that the earthquake effect had contributed in survivors' life badly with financial difficulties even six years after disaster (Ceyhan & Aykut, 2007).

Chou (2010) revealed in article that the most horrific building collapses are common with major earthquakes. The earthquake survivors had a higher percentage of psychiatric disorders. The risk factors that affected quality of life in survivors were age, female sex, financial loss, social network change, and mental impairment among Taiwanese Village Population. There has no doubt to say that there has a significance co-relation with trauma like building collapse with the injured quality of life. Finally, it could be said that building collapse incidences are common over the world specially related with earthquake. However, it is very uncommon in history that thousands of workers died in a single incidence. In fact, building collapse is it for natural reasons like an earthquake or for human errors, results survivors' trauma. The survivors suffer psychological and environmental trauma due to post stress disorders. In Bangladesh context, there is limitation of knowledge about the survivors' QOL after receiving different sorts of support.

CHAPTER - III METHODOLOGY

3.1 Study design

The study has modified with Cross - sectional Study. This is a non-experimental study design. The studies are carried out at one time point or over a short period. Levin (2006) said that- 'A cross-sectional study design is used when the purpose of the study is descriptive, often in the form of a survey. Usually there is no hypothesis as such, but the aim is to describe a population or a subgroup within the population with respect to an outcome and a set of risk factors'. Cross-sectional surveys are studies aimed at determining the frequency of a particular attribute, such as a specific exposure, disease or any other health-related event, in a defined population at a particular point in time. Data can also be collected on individual characteristics, alongside information about outcome (Olsen & Marie, 2004). In this study, there is no hypothesis as such, but the aim is to describe a population or subgroup within the population accordingly to the physical, social and economical quality of life. Data can also be collected on individual characteristics, beside information about outcome. In this way cross-sectional studies provide a 'snapshot' of the outcome and the characteristics associated with it, at a specific point in time. The objectives of the study has demanded the association between demographic factors and quality of life, for this reason cross sectional study is the best way to find out the relation between those.

3.2 Sample selection procedure

It is being worked for persons with disabilities to reintegrate them at their community life. The investigator had chosen Savar Upazilla as a study area for collecting data. Researcher has called the participants by mobile phoning and meet with them inside Savar local areas. Researcher selected participants who have live in Savar. Participants had different type of physical disabilities such as spinal cord injury, amputation, fracture. All the people with physical disabilities were selected for this study and that fulfilled the inclusion criteria. Researcher explained every participant about the research aim and objectives. Researcher had taken sampling from those who willingly participated in this research.

3.2.1 Sampling technique

After taking permission from the ethical body of BHPI, the investigator had collected a list of people of Rana plaza victims. Researcher also observed the persons with disabilities who had survived after the breakdown. Those participants had fulfilled inclusion criteria as they are the participants of the study. Investigator had selected them through 'purposive convenient sampling' that are available in between the days of data collection. Only 50 numbers of participants have found physically and collected data through face to face interview. When population under study is not available at a time or unreachable with all population then purposive comprehensive sampling can be used (Hair & Bush, 2009). According to Klein (2005) Purposive sampling is that a researcher do not simply study whoever is available, but use his/her judgment to select a sample that he/she believes based on prior information, will provide the data need. In this type of sampling the sample is statistically representative. It is mostly used in qualitative research but can be used in quantitative study with small populations. Hence, the investigator has taken 50 data from organizational database and selected the victims who have already reintegrated in their own community by purposeful comprehensive sampling. Researcher collected data through mobile calling due to their periphery settlement. Therefore, those Rana plaza victims who fulfill the inclusion criteria, they are the sample of the study and 50 victims with permanent or temporary disabilities had selected to participate in the study. Researcher also contacted with staffs of vocational training institute who were responsible for training of those victims and was taking help to identify the current physical and mental status.

3.2.2 Inclusion Criteria

1. Rana plaza victims (male and female person with disabilities)
2. Person with physical disabilities (permanent and temporary) are the participants of the study who are suffering from severe or mild disabilities and age is more than 20. Bangladeshi government has a strong restriction with child labor below 16 years of age. Therefore, researcher selected the age range up to 16 years for maintaining ethical issue.

f

3.2.3 Exclusion Criteria

1. People with physical disabilities who have Mental illness (Psychosis)
2. People with Speech problem prior to building collapse
3. Person who were not interested to attend the program at the time of data collection.

3.2.4 Sample Size

The equation of sample size calculation are given below-

$$n = \left\{\frac{Z(1-\frac{\alpha}{2})}{d}\right\}^2 \times pq$$

Here,

$Z(1-\frac{\alpha}{2})$= Confidence level at 95% (standard value of 1.96).

d = 0.05

p = 0.78

q = (1-p) = (1-0.78)

=0.22

According to this formula of sample size calculation, the actual sample size was about 250 but due to the limitation of time took only 50 samples conveniently from the population for this study.

3.2.5 Variables

Independent variable

Demographic factors (Age, Sex, Marital status, Education level)

Dependent variable

Quality of life (Physical, Social, Psychological, Environment)

3.3 Data collection Methods

Before collecting data, the study aims, objectives and study procedures were explained to participants. They were given the opportunity to ask questions and once they were satisfied they were asked to sign the written consent form. Once they signed the consent form, the researcher completed the WHOQOL- 100 along with the demographic data. Researcher collected data from September 22, 2015 to October 15, 2015. Researcher went to every participant's house, workplace and training institute for collecting data. In this stage researcher has taken help from in-charge of training institute and persons who were participants in this research. In certain instances, the individual being assessed may not be able to complete the questionnaire (e, g, due to expressive or receptive language deficits, memory impairment, post traumatic distress etc.). In these instances, a person who is familiar with the individual being assessed could complete the form, provided that the individual being assessed is present when the form is completed.

3.4 Data collection tools

Demographic information of the respondents was collected by using self-demonstrated demographic questionnaires (appendix 3 & 4). Demographic information included age, sex, educational level, marital status, previous occupation, new job. The victims have got support from CRP and other donor agency but they demanded more and more from organizations or other sources. Therefore, researcher has added some points in demographic questionnaire like- type of supports, amount of money, satisfaction with money, further expectations. According to the victims still now expect a lot and believe that they are in a disadvantaged situation but some amputee victims are really in challenge. Thus, some more information like type of disabilities and diagnosis has put in demographic questionnaire.

3.5 Data Analysis

Data was entered into Statistical Package for Social Science (SPSS) software Version 20.0.1 and excel spread sheet. Data also analyzed by SPSS software. WHO-QOL 100 and Demographic questionnaire was analyzed and discussed about the demographic factors such as age, gender, occupation marital status etc. WHO-QOL 100 questionnaire was also discussed about physical, psychological, social relation and environmental health of quality of life. In WHOQOL- 100, there are 26 questions. The scale grade has distributed into 1-5 (Very poor- very good) with overall quality of life and level of health satisfaction. The domains have graded with very poor, poor and fair. According WHO guideline, there are converter page from raw score to transformed score. All transformed scores were assessed as good when it above the mean and greater than one standard deviation, scores were regarded as poor when below the mean and less than one standard deviation, while scores that fall between them were assessed to be fair. In Nigeria, similar method was used by Olusina and Ohaeri (2008) to assess the QOL of people with schizophrenia (Nuhu et al., 2013). It has also divided that the type of support and amount of support received by victims.

Researcher has taken information about types of disabilities and satisfaction of their life. Beside, researcher finds out the results by SPSS software that analyzed in excel and showed in pie chart, bar chart and column. Results were discussed and presented through figures and tables as applicable.

3.6 Ethical Consideration

The researcher gained permission from the ethical committee of BHPI (appendix 8). Researcher also gained permission from author bodies of WHOQOL for using their scale and by some terms and conditions researcher had got license to use it for one year (appendix 5). The permission has given from Geneva, Switzerland. A written consent form was signed by each participant after the study had been explained to them and any questions that they had were answered to their satisfaction. The researcher assured them that their personal identity would be kept confidential and all the documents were kept in a safe place where only the researcher could have access and was strictly maintained. The research gave them assurance that Participation in the study was entirely voluntary

and participants knew that they could refuse to participate or stop participating at any time without that decision. Where data will be made public, as in publications, it will be presented in such a way that no individual will be identifiable. Permission was taken from every participant by using the consent form. At the beginning of the data collection the researcher informed every participant about the ethical and confidential issues from BMRC and IRB. It was also informed that, participants have the right to refuse to answer any questions and also have the right to withdraw from any part of the research. They were informed that data was used only for the research purpose and it will be protected.

3.7 Reliability and validity

The World Health Organization Quality of Life (WHO-QOL 100) questionnaire is a reliable and valid instrument and other different authors have used it in their study. The researcher was not involved with the RANA PLAZA victims treatment, rehabilitation and training services of any of the 50 participants.

The WHO-QOL 100 was individually discussed with each participant and for questionnaire enough time was given to them for completing form. There was 10-15 minutes time limitation in filling out the WHO-QOL 100 and socio-demographic questioners. WHO-QOL questionnaire was not translated manually, the authority has shared readymade translated Bangla version.

WHO-QOL questionnaire is a perfect selection for assessing person with physical disabilities who are suffering problem related health and quality of life (WHO, 2013).

CHAPTER - IV RESULTS

4.1 Socio demographic characteristic of Rana Plaza victims

Demographic data of survivors after building breakdown are listed in table 1. Table shows that among 50 participants. Most of the participants were female 72% rather than male 28%. (Figure 4.1)

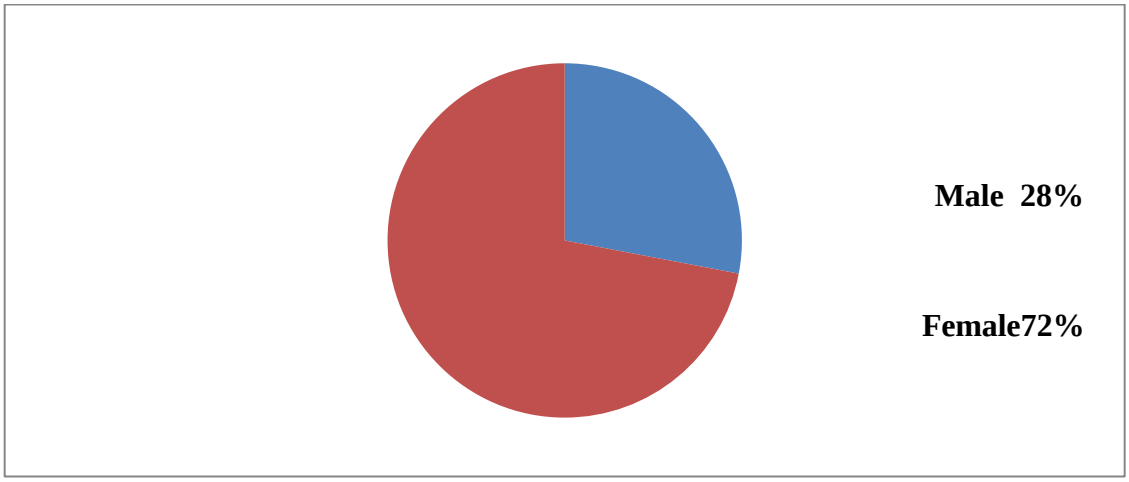


Figure 4.1 Ratio of the survivors

In case of their marital status about 6% were unmarried, 88% were married and only one survivor was divorced 2% and 2% was separated. (Figure 4.2)

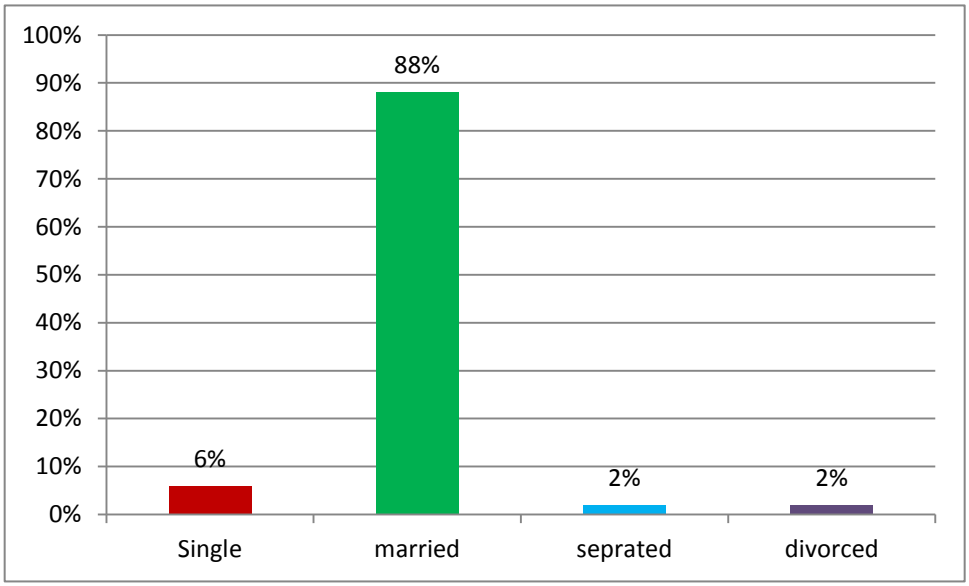


Figure 4.2 Marital status of the survivors

In between 20-30 years of age about 58% of survivors and about 38% of survivors are between 31-40 years of age range. In between 41-50 years of age range the survivors are 2%. (Figure 4.3)

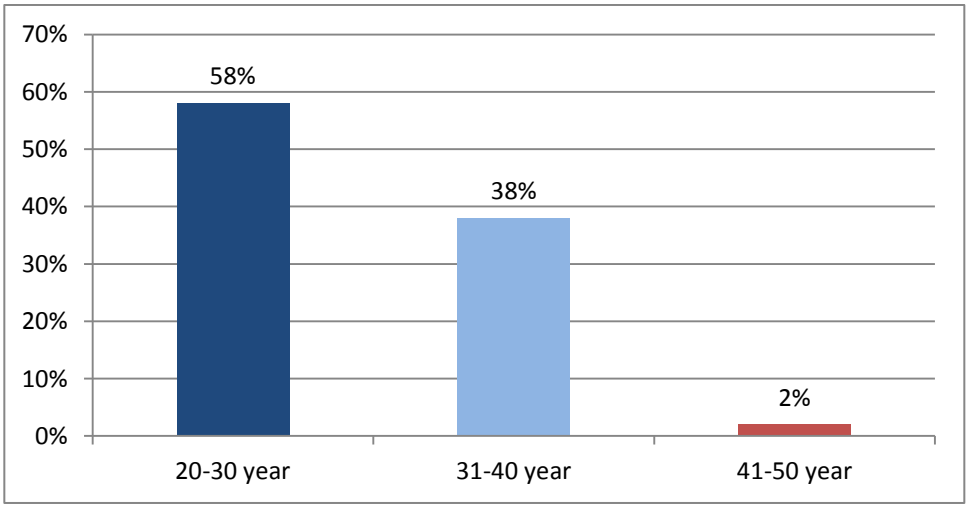


Figure 4.3 Age of the survivors

Among all of survivors about 12% participants have never attended on any formal education. About 34% of the participants have completed primary education where only 16% of the participants have finished their higher education and 8% completed their home education only. (Figure 4.4)

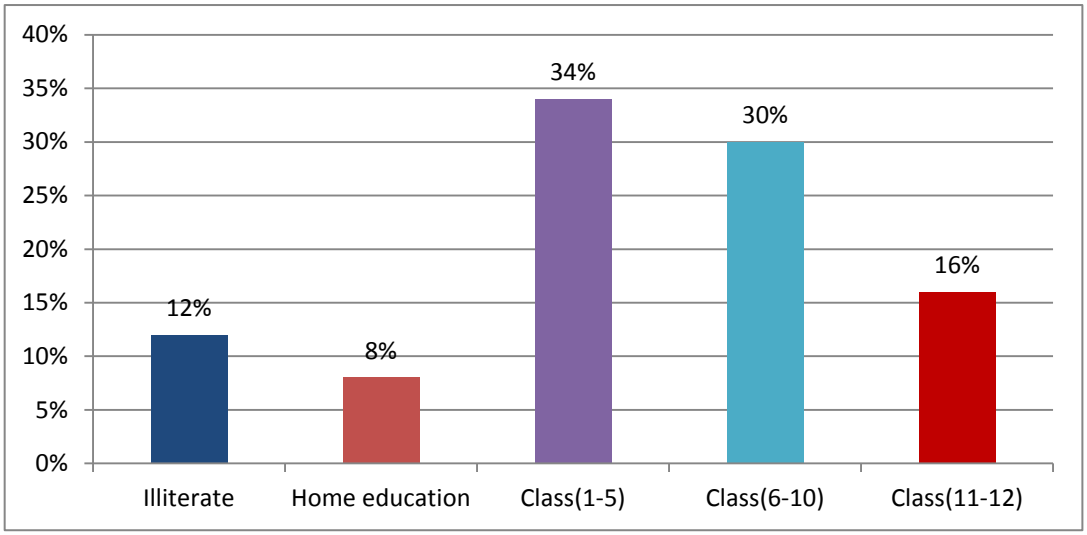


Figure 4.4 Educational statuses of the survivors

According to the participants medical report, it has been diagnosed that among all of the participants 20% of them have diagnosed with musculoskeletal disorders, 12% of participants are surviving with fracture complications. About 18% participants have amputee in their lower extremity and about 20% of them have lost their upper extremity. Very few numbers (about 14%) of participants are diagnosed with lifelong disability (spinal cord injury). (Figure 4.5)

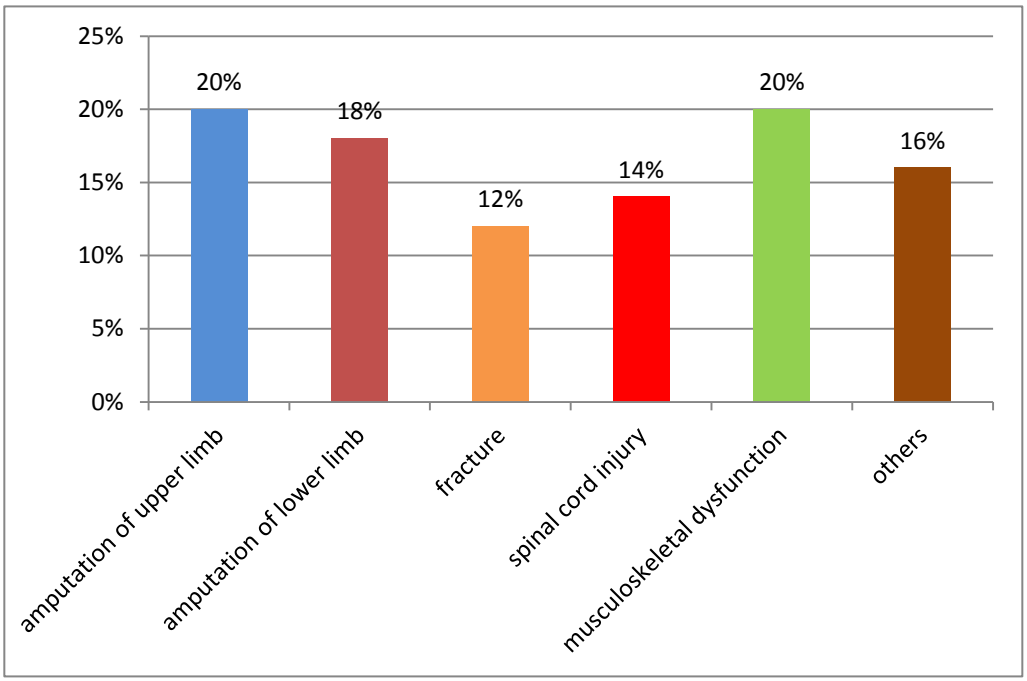


Figure 4.5 Diagnosis of the survivors

In case of survivor's types of disability, most of the participants, about 36% are recovering from temporary injury and about 60% participants are having permanent types of disability. (Figure 4.6)

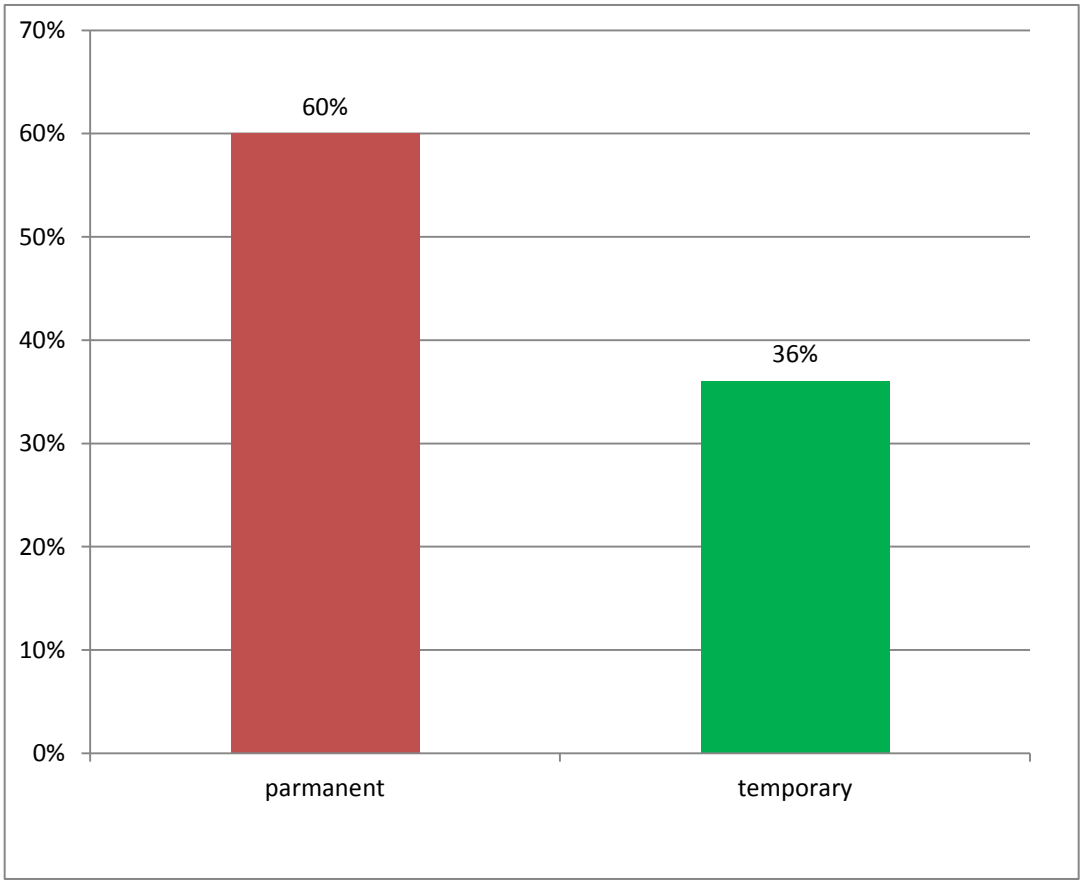


Figure 4.6 Type of disability of survivors

In case of overall quality of life of Rana Plaza survivors about 24% of them have neither poor nor good quality of life, about 36% of them have very poor quality of life and only 2% has good quality of life. However, no one led a very good quality of life. (Figure 4.7)

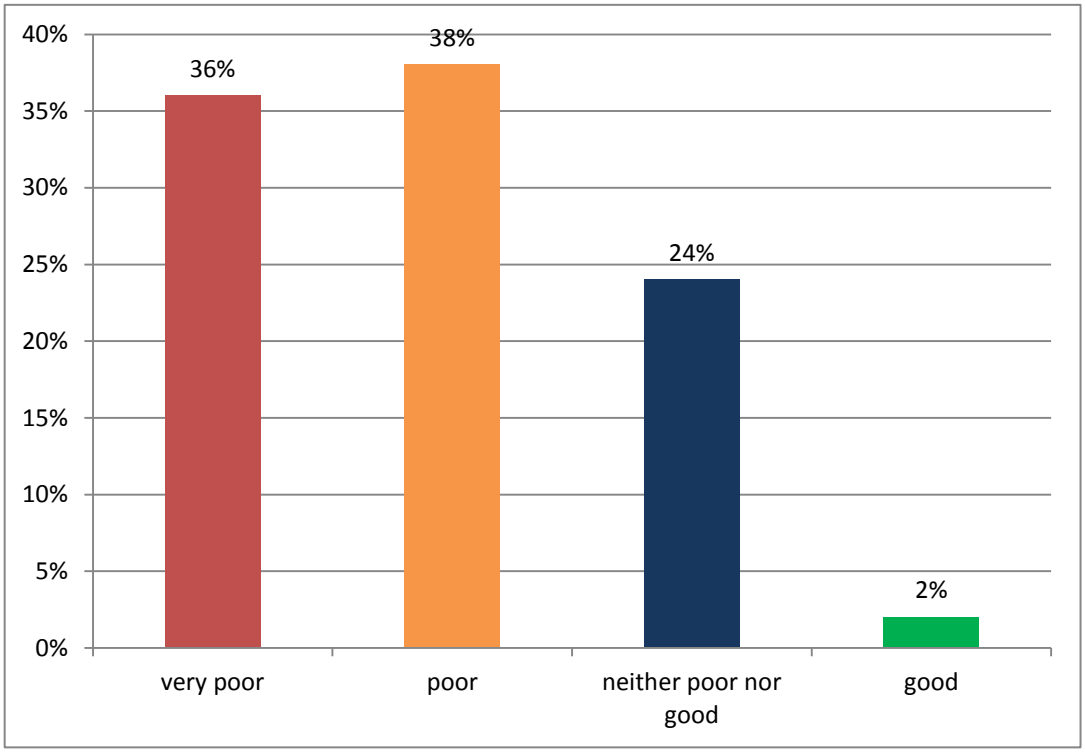


Figure 4.7 Rana Plaza victims overall quality of life

After Rana Plaza disaster, the exposure that means the survivors level of health satisfactions has analyzed. Along all of survivors about 12% of participants are neither satisfied nor dissatisfied with their health satisfaction where 8% were satisfied with their health status after receiving treatment and rehabilitation services. However, 20% is very dissatisfied with their health status and about 58% of participants are dissatisfied with their health status but only a few, about 2% is very satisfied with their health status. (Figure 4.8)

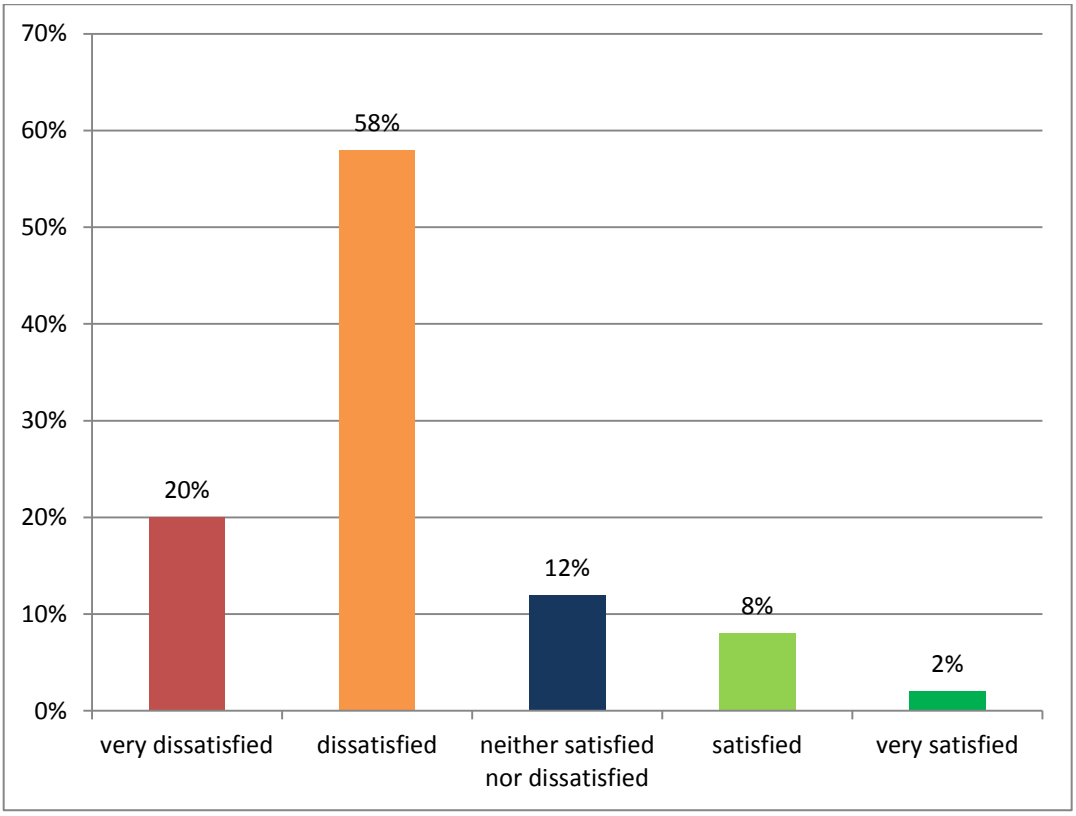


Figure 4.8 Level of Health satisfaction of Rana plaza victims

After two year of the incident the survivors have set up their plan for job. About 64% has already planned for self-employment. On the other hand about 8% have already planned to engage with non-government job and another 14% will involve with homemaking activities. 2% will remain unemployed where about 4% of them are trainee and 2% are non-paid. (Figure 4.9)

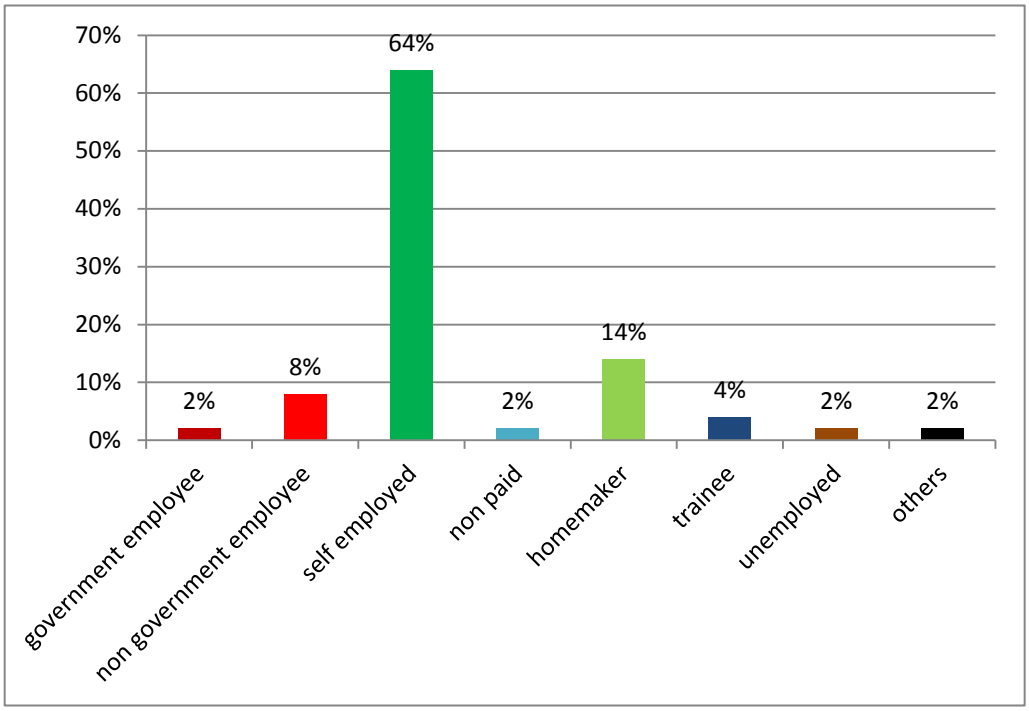


Figure 4.9 New job status of the survivors

Association between Quality of life questionnaires with socio-demographic factor

The Chi-Square Test was performed between Quality of life and the socio-demographic information. Highly significant association was how satisfied are you with your health with type of disability, marital status and age ($P<0.05$). Significant association was how would you rate your quality of life done with diagnosis ($P<0.05$).

Quality of Life	Age	Marital status	Diagnosis	Type of Disabilities
How would you rate your quality of life			0.03	
How satisfied are you with your health	0.02	0.02		0.001

Table 4.1 Association between Quality of life questionnaires with socio-demographic factor

Association between Environment questionnaires with Socio-Demographic factor

The Chi-Square Test was performed between Environment questionnaires and the socio-demographic information. Highly significant association was how healthy is your physical environment with age, previous job, new job and job nature ($P<0.05$).

Environmental	Age	Marital status	Previous job	New job	Job nature
How healthy is your physical environment	0.01	0.003	0.01	0.01	0.01

Table 4.2 Association between Environment questionnaires with Socio-Demographic factor

Association between Physical questionnaires with socio-demographic factor

The Chi-Square Test was performed between Physical questionnaires and the socio-demographic information. Highly significant association was do you have enough energy for everyday life with age, marital status and diagnosis ($P<0.05$). Significant association was how satisfied are you with you with your sleep with sex, type of disability ($P<0.05$).

Physical	Sex	Age	Marital status	Diagnosis	Type of disability
Do you have enough energy for everyday life	0.04	0.002		0.02	0.04
How satisfied are you with your sleep			0.02		

Table 4.3 Association between Physical questionnaires with socio-demographic factor

CHAPTER - V DISCUSSION

Socio demographic characteristic of the RANA Plaza victims

Socio-demographic characteristics are a strong predictor of perceived quality of life among survivors. Rana plaza disaster survivors' sex is an important factor of socio-demographic characteristics. Regarding the socio-demographic status, this study finding is similar to other study findings. Demographic data of survivors, after building collapse shows that among all of participants, most of the participants were (78%) female rather than male. Hu et al. (2012) has revealed in his study that after any disaster the female exposure suffers a lot than male due to their physical structure and cultural aspect, in that study about 78% participants were female survivors. Zhang et al. (2012) has mentioned in their study that after SICHUAN earthquake in China; most of the survivors were females with fractures rather than male. In case of garments working sectors, females are highly getter than male workers. Therefore, the study participants are smaller than other study, thus why it does not match with another statistics of Bangladeshi garments sector. In case of their marital status, about 6% were unmarried, 88% were married. The number of married men and women worker with children are higher than no child workers (Monitoring the Rana Plaza Follow-ups 2013). In Bangladesh, one study in garments factory says that about 53% garments worker are married and secondly 36% are unmarried where divorce persons rate is 6% (Chowdhury & Ullah, 2010). Among all of the survivors, about 17.4% participants have never attended on any formal education and 34.9% of the participant has completed primary education where only 8.8% of the participant has finished their higher education. In Bangladesh, the garments workers are poor and their educational qualifications are not significant (Bhuiyan, 2012). Chowdhury and Ullah, (2010) say that in Bangladesh, most of the garment workers' educational level is between class I-IV (38%) and between classes VI-X for about 28% in Chittagong district. Generally, the survivors' educational level is poor in fact; they have shown risk taking behavior for their livelihood but have also poor awareness about building collapse impact. After one year of the incident the survivors have set up their plan for job. About 78.2% has already planned for self-employment and some are already involved with non-government jobs. Very few of

them are struggling with no job due to their physical impairment. After any accident, most of the survivors lead life with mild or moderate disabilities. This challenging situation cannot make them stop. There are different vocational rehabilitation Centre work with those disable person and make them self-employed (World Bank, 2004). The Rana plaza survivors are among them who have cope with their life by self-employment but those who have lost their limb and in psychological distress, they are struggling. Among all of the participants, at present 54.4% of participants are trainee and they are involved with vocational training for returning to their mainstream society with employment. From the spinal cord injury (permanent disability) survivors, who have taken service from CRP, about 22% of them have involved with government or non-government services, 25% of women have involved with household activities and 23% of survivors returned to their study (Momin, 2007). Among most of the survivors, 20.0% are diagnosed with musculoskeletal disorder and about 12% is surviving with fracture. Very few survivors have lost their limb and are suffering from lifelong disability (like- spinal cord injury). In India, after earthquake, huge numbers of buildings were collapsed. It is found that most of the survivor (23%) was diagnosed with upper extremity fracture and about 18% are diagnosed with head injury. Therefore, the situations are little bit similar. Among all of Rana Plaza survivors, most of the participants (about 48.9%) were worker, about 19.6% was operators, 10.9% was supervisors, 4.3% was unit in-charges and only 2% was officers. Chowdhury and Ullah (2010) say that most the garments workers have worked as physical based operators and general logistic workers and most the workers have 2-3 years working experience where very few numbers of workers have more than 7 years working experiences. Different national and international organizations have given supports to survivors and most the participants have got money (about 91.3%). Kollewe, (2014) stated that the British agencies have estimated around 40 million dollars for development and rehabilitation of Rana plaza survivors. Hence, they have got supports with shelters, lands and household resources from national and international contributions. After receiving supports most of the participants are not satisfied (93%) with their supports and only 7% is satisfied with their received supports. Due to a devastating trauma and physical lose; the survivors have a lot of expectation from government and international body. In Bangladesh, after

any disaster the survivors have lots of expectation in response phase and used to with various source of support (Anam, 2010).

Overall Quality of life of survivors after two year of the incident

In case of overall quality of life of Rana Plaza survivors, about 24% of them have neither poor nor good quality of life; therefore about 36% of them have very poor type of quality of life. However, no one led life with very good quality of life but 2% has only good quality of life. Nuhu et al. (2013) has said that one-third of the participants had poor overall QOL at palliative care survivors with cancer. After Rana Plaza disaster the exposure that means the survivors level of health satisfaction has analyzed, Along all of survivors about 33.7% of participants are neither satisfied nor dissatisfied with their health satisfaction where 27.2% are satisfied with their health status and about 23.9% of participants are dissatisfied with their health status but only a few are very satisfied with their health status. Nuhu et al. (2013) 66% has said that reported poor health satisfaction in quality of life at palliative center. Wang et al. (2010) mentioned that the quality of life for the person of traumatized disability has improved day by day with reducing anxiety and depression. According to WHO Quality of life questionnaire, there are four domains of quality of life and those are physical, psychological, social relationship and environmental. In case of physical health, maximum participants have ensured good quality of life where one third has poor and another one third has fair type of quality of life. In case of psychological aspect most of the participants (70%) have led life with good quality, where only 5% has fair and one third has poor psychological quality of life. In case of social relationship, about half of the participants have poor quality of life and in environmental aspect, two third of the participants have fair quality of life where about 9% has poor environmental quality of life. Nuhu et al. (2013) revealed that about 21% had poor score on the physical domain while 19% had poor psychological domain QOL. In summary, the overall QOL and the physical, psychological, social and environmental domain QOL ware fair in palliative care centre. The research findings indicate that the earthquake related building collapse survivors had significantly lower scores in the psychological and environmental domains of WHOQOL-BREF (TR) than the individuals who were not exposed to a disaster (Ceyhan & Aykut, 2007). However, this study has mentioned the good psychological quality of life after 10 months of

incident due to enough economical and health care support from rehabilitation centre. Bahrick and Parker, (2008) have said that the impact of any disaster work in human mind for a long period of time and create distress while sleeping, working and doing other activities. The younger children with 4 years age have high impact on their psychological stress after any natural disaster like hurricane.

Association between demographic factors and overall quality of life

This study also sets out to show the association between overall quality of life, health satisfaction and Rana survivors' characteristics (age, sex, job nature, educational background, type of disabilities). In association it is found that there was no significant association between survivors' sex and quality of life that means there was no variation in quality of life between male or female survivors after Rana plaza disaster. Ceyhan & Aykut, (2007) and Nuhu et al. (2013) have mentioned in their study that the male survivors have poor quality of life than females. In Asian context the males are the main income personnel for family members. It may effects on their quality of life, especially in physical domain but in the Rana plaza survivors' sex and quality of life have no associations. According to result, Quality of life does not depend upon sex. Bangladesh is male dominant country and male take responsibilities for family than female but finding say that quality of life could be better or poor for both male and female. Regarding survivors' age, there was no significant association between Rana plaza survivors' age and their overall qualities of life and younger or older aged survivors have no significant changes in their quality of life but the findings say that the younger aged people (20-30) mention that they have very poor quality of life than other age groups. Tsai et al. (2007) has mentioned that the survivors' age and quality of life have significant association where the younger aged quality of life is poorer than older survivors. However, the survivors' age range represents in between 16-32 years, the association could be significant if the age range represents all aged survivors. Either the survivors are too younger or older the quality of life does not vary with them. Quality of life could be good or bad for younger and older. Also there was no association between survivors' educational background and their quality of life. The survivors' quality of life does not depend upon their educational qualification. Tsai et al. (2007) has revealed that there is a close association between level of mental health and educational qualification

but in this study, researcher found those survivors' educational qualifications has visible relation with their quality of life. However, in this study, there has no connection with education and quality of life. If anyone completed graduation might be good or bad quality of life besides, any illiterate person could led a bad or good quality of life. As a result, it could not say that the educated person has better quality of life than illiterate. Moreover, survivors' marital statuses have no significant associations with their quality of life. Nuhu et al. (2013) has revealed that the cancer survivors' quality of life does not depend upon their marital status. There has no connection between married and unmarried person with their quality of life. However, there was a highly positive significant association between survivors' type of disabilities and their quality of life, which means the quality of life, is quiet better with temporally disable persons where it is very poor with permanent type of disabilities. There was also a significant association between survivors' medical diagnosis and their quality of life and in this case the long term disable survivors have very poor quality of life but no one have very good quality of life. Centre for Policy Dialogue (CPD) (2013) has mentioned that these survivors seem to have lost their earning ability by working in the industrial sector. The workers have also been afflicted with injuries such as backbone injury and trauma which need long-term treatment to rehabilitate and get back to normal condition. They would also require long time to get back to normal physical condition. A number of these survivors now face unemployment due to lack of full physical fitness. This is the only barrier they face leading a quality of life. However, there is also a significant association with survivors' current occupations and their quality of life. Tsai et al. (2007) has revealed that in their study they did not get any association between earthquake survivors with building collapse and their occupations but in case of Rana plaza survivors, they have taken vocational training and engaged in honorable jobs. Therefore, their life styles have changed but some of them are also struggling. However, workers were ready to get back to jobs; (BGMEA) should disclose their re-employment scheme to different factories (Centre for Policy Dialogue, 2013). There is a significant positive association with the survivors' maximum of them are satisfied with their health status but very few numbers of survivors are dissatisfied with their health status.

CHAPTER - VI CONCLUSION & RECOMMENDATION

Now-a-days, building collapse in Bangladesh is a significant and traumatic experience. Some risk factors such as gender, type of disabilities and diagnosis after the event can affect the QOL and health prospect with their physical, social, psychological and environmental aspect of survivors. While the QOL in the physical health domain of female survivors was lower than that of male survivors, the younger male survivors have poor quality of life rather than female survivors. The QOL in the psychological and environmental domains of the survivors has reached a positive position but in case of social relation and physical domain they are still struggling. This quality of life was found after ten months of rehabilitation services that include psycho-education and counseling, physical treatment, therapeutic service, vocational training etc. These rehabilitation interventions could be effective at helping to improve their quality of life. The government and concerned authorities should take necessary measures to implement the court directives in case of compensation, support to injured workers, taking legal actions against those who are responsible for the incident. Besides, cases which have been lodged by the Department of Labor seem to be weak as it was not filed by the appropriate person from the Department. Necessary measures will need to be taken in this regard. Given the severity of the incident, government should not intervene with the legal process, and should ensure that other organizations including BGMEA will not try to influence or hinder the investigation and charge-framing process. Finally, we should become more concerned to prevent any type of manmade disasters like-building collapse, fire etc. by an appropriate collaboration from top to bottom. The study was not able to quantitatively assess subsequent adversities after the building collapse, which prevents us from providing a clearer profile of their relationship between initial exposure, subsequent adversities, and post-disaster QoL. The information might be more effective if further research possible to follow-up their quality of life. Despite the limitations, this cross sectional study could be a longitudinal study.

Recommendation

The finding could be generalized, if QOL could assess again further and follow-up it until five to ten years. The results also suggest that the physical impairments in different QOL dimensions are not universal. However, most of the findings highlight the impact of any further disaster such a country like Bangladesh. The study could spread out some message for further preparatory action plans. It could help to take further necessary steps in recovery and rehabilitation activities for ensuring sustainability.

References

Ahad, A. M., (2013). Building Collapse in Bangladesh Leaves Scores Dead. Available at :< http://www.nytimes.com/2015/07/25/world/asia/bangladesh-building collapse .html ?pagewanted=all&_r=0> [accessed on 25 July 2015].

Alam, J., and Hossain, F., (2013). Bangladesh Ends Search For Survivors of Building Collapse; 1, 127 Bodies Recovered, Busines .Available at :< http://www.huffingtonpost.com / 2013/07/15/bangladesh-building- survivors-search-off_n_3264895.html> [accessed on 22 July 2015].

Anam, N. K., Bari, A. K. M., N., and Alam, K. J., (2010). The situation analysis on disaster and disability issues in the coastal best of Bangladesh, Centre for Services and Information on Disability (CSID), Action Aid Bangladesh. Available at: <http://www.huffingtonpost.com/2015/07/13/bangladesh-building-survivors-search-off_n_3264895.html> [accessed on 25 July 2015].

Association of Development for Economic & Social Help – (ADESH), (2013). Rana Plaza Collapse, Savar, Dhaka. Bangladesh. Available at: <http://www.huffingtonpost.com/2015/07/15/bangladesh-building-survivors-search-off_n_3264895.html> [accessed on 12 August, 2015].

Ayedun, C. A., Durodola, O. D., and Akinjare, O. A., (2012). An Empirical Ascertainment of the Causes of Building Failure and Collapse in Nigeria. Mediterranean Journal of Social Sciences. 3 (1): 313-326.

Bangladesh Garment Manufacturers Exporters Association- (BGMEA), (2009). BGMEA starts salary disbursement for Rana Plaza victims. Available at :< http://www.bgmea.com.bd/home/activity/2014/08/21/BGMEA_starts_salary_disbursement_for_Rana_Plaza_victims> [accessed on 03 August 2015].

Bahrick, L. E., and Parker, J. F., (2008). The Effects of Stress on Young Children's Memory for a Natural Disaster. Journal of Experimental Psychology.4 (4): 308-331.

Bhattacharya, D., (2013). Death toll in Vadodara buildings collapse rises to 11, probeordered, The Time India. Available at :< http://india today.intoday.in/story/ vadodara-building-collapse-death-toll-narendra-modi/1/304183.html2015> [accessed on 22 July 2015].

Bhuiyan, Z. A., (2012). Present Status of Garment workers in Bangladesh: An analysis, IOSR. Journal of Business and Management, 3(5): 38-44.

Campbell, C., (2013). Dying for Some New Clothes: Bangladesh's Rana Plaza Tragedy, Time world, Available at: <http://world.time.com/2015/08/26/dying-for-some-new-clothes-the-tragedy-of-rana-plaza/#ixzz2viT8ldqY> [accessed on 23 July 2015].

Ceyhan, E., and Aykut, A., (2007). Earthquake survivors' quality of life and academic achievement six years after the earthquakes in Marmara, Turkey Disasters, 31(4): 516−529.

Centre for Disease Control and Prevention (CDC), (2011). HRQOL Concepts, Available at: <http://www.cdc.gov/hrqol/concept.htm>[accessed on 28 June 2015].

Chowdhury, N. J., and Ullah, M. H., (2010). Socio-Economic Conditions of Female Garment Workers in Chittagong Metropolitan Area–An Empirical Study, Journal of Business and Technology, 2: 53-70.

Chou, F. H., Chou, P., Ping, P. T., Yang, O. W., Chien, I., and Lu, M. K., (2010). Quality of Life and Related Risk Factors in a Taiwanese Village Population 21 Months after an Earthquake. Quality of Life Research, 19(9): 1381-1391.

Cohen, L., Manion, L., and Morrison, K., (2011). Research Methods in Education, 7th ed. London: Routledge.

Hair, J., Bush, F. R. P., and Ortinau, D. J., (2009). Marketing Research: within a change information environment, McGraw-Hill Irwin: New York.

Hu, X., Zhang, X., Gosney, J. E., Reinhardt, J. D., Chen, S., Jin, H., and Li, J., (2012). Analysis of functional status, quality of life and community integration in earthquake survivors with spinal cord injury at hospital discharge and one-year follow-up in the

community. Journal of Rehabilitation Medicine, 44(1): 200 – 205.

Jahangir., (2013). Saver Tragedy, The Bangladesh Chronicle, Available at:<http://www.bangladeshchronicle.net/index.php/2015/07/savartragedy> [accessed on 28 June 2015].

Klein, P. D., (2005). Epistemology, Routledge Encyclopedia of philosophy, Available at :< http://www.rep.routledge.com/article/P059> [accessed on 30 July 2015].

Kollewe, J., (2014). Matalan donates to Rana Plaza victims' trust fund one day before deadline, The Guardian, Available at:<http://www.theguardian .com/ business/2015/08/30/matalan-donates-rana-plaza-victims-trust-fund>[accessed on 30 July 2015].

Levin, K. N., (2006). Study design III: Cross-sectional studies. Master's in developmental science, Dental Health Services Research Unit, University of Dundee, Dundee, Scotland, UK.

Malkin, B., (2014). Poor quality construction materials to blame' for deadly Bangladesh factory collapse, The Telegraf, Available at :< http://www.telegraph .co.uk /news /worldnews /asia/bangladesh/10075098/Poorquality-construction-materials-to-blame-for-deadly-Bangladesh-factory collapse.html> [accessed on 12 May 2015].

Michael, A. O., and Razak, A. R., (2013). The Study of Claims Arising from Building Collapses: Case Studies from Malaysia, Nigeria, Singapore and Thailand. Civil and Environmental Research, 3(11): 114-130.

Momin, A. K. M., (2007). Impact of services for people with spinal cord lesion on economic participation. Asia Pacific Disability Rehabilitation Journal, 15(2): 53-67.

Monitoring the Rana Plaza Follow-ups (2013), First Independent Monitoring Report 100 Days of Rana Plaza Tragedy, A Report on Commitments and Delivery, Centre for Policy Dialogue (CPD), Dhaka 1000. Available at: http://www.cpd.co.bd/ news /asia/bangladesh/10075098/Poor-quality construction-materials-to-blame-for-deadly-Bangladesh-factory-collapse.html> [accessed on 10 June 2015]

National Research Council (U.S.), (1985). Assuring structural integrity in army systems By National Research Council (U.S.). National Materials Advisory Board, Commission on Engineering and Technical Systems, Committee on Assurance of Structural Integrity, 19(30): 1-19.

Nuhu, F. T., Adebayo, K. O., and Adejumo, O., (2013). Quality of life of people with cancers in Ibadan, Nigeria. Journal of Mental Health, 22(4): 325–333.

Olusina, A. K., and Ohaeri, J. U., (2003). Subjective quality of life of recently discharged Nigerian psychiatric patients. Social Psychiatry Psychiatric Epidemiology, 38: 707–714.

Olsen, C., and Marie, D., (2004). Cross-Sectional Study Design and Data Analysis. The Young Epidemiology Scholars Program (YES) is supported by The Robert Wood Johnson Foundation and administered by the College Board. USA.

Quinones, N., (2013). Building collapse in Colombia kills 1; 10 still missing. From, CNN, Updated from Available at :< http:// edition.cnn .com/2013/ 10/13 /world /americas/colombia-building-collapse/> [accessed on 22 July 2015]

Quality of Life., (2013). Investopedia, Available at:<http://www.investopedia. com/terms/q/quality-of-life.asp> [accessed on 12 May 2015].

Sing, H. R., (2013). Residential building collapses in India, CNN. Retrieved on October 9, 2013 - Updated 13:41 GMT (2141 HKT) Available at: <http://timein.co.in/2015/10/09/world/asia/india-building-collapse/ > [accessed on 12 may 2015].

Shah, S., (2013). Mumbai Building Collapse Kills at Least 47: Rescue Workers Pull Dozens From the Rubble, Updated Sept. 28, 2013, Available at: <http://online.wsj.com/news/articles/SB10001424052702303796404579100371090264120 >[accessed on 10 May 2015].

Samuel, A. E., and Weir, J., (2006). Introduction to Engineering Design: Modeling. Synthesis and Problem Solving Strategies, 12(4): 3-5.

Shannon, S. E., (2005). Three Approaches to Qualitative Content Analysis, Available at : < http://www.ncbi.nlm.nih.gov/pubmed/16204405> [accessed on 16 October 2015].

The times of India. (2014). Goa building collapse: 14 killed, possibility of finding survivors bleak, Available at :< http://timesofindia.indiatimes.com /india/Goa-building-collapse-14-killed-possibility-of-finding survivors bleak /article show/ 28426260.cms> [accessed on 11 may, 2015].

The Economist Intelligence Unit's, (2005). Quality-of-life index, undp Human Development Report THE WORLD, Available at :< www.economist.com /media/pdf/QUALITY_OF_LIFE.pdf>[accessed on 11 May 2015].

Thomas, W. R., (2014). What Is the Objectivist Theory of Knowledge (Epistemology), The Atlas Society, Available at: http: //www. atlassociety .org/ objectivist epistemology> [accessed on 11 May 2015].

Tsai, K., Chou, P., Chou, F. H., Su, T. T., and Lin, S., (2007). Three-year follow-up study of the relationship between posttraumatic stress symptoms and quality of life among earthquake survivors in Yu-Chi, Taiwan, Journal of Psychiatric Research, 41(1): 90–96.

Toor, P. M., (2008). Structural Integrity of Fasteners. ASTM International. 2: 121-154.

Ullah, H., and Chowdhury, N. J., (2010). Socio-Economic Conditions of Female Garment Workers in Chittagong Metropolitan Area–An Empirical Study. Journal of Business and Technology, 2: 53-106.

Wang, X., Gao, L., Zhang, H., Zhao, C., Shen, Y., and Shinfuku, N., (2010). Post-earthquake quality of life and psychological well-being: Longitudinal evaluation in a rural community sample in northern China. Psychiatry and Clinical Neurosciences, 54: 427–433.

Watanabe, T., (2007). Seoul Department Store Collapses; 80 Die: Asia: Building stayed open despite warning signs. More than 900 are injured. The Los Angeles Times, Available at: <http://articles.latimes.com/keyword/building-collapses-south-korea> [accessed on 11 May 2015].

World Bank, (2004). Disability in Bangladesh: A Situation Analysis, The Danish Bilhaziasis Laboratory for the World Bank, People's Republic of Bangladesh. Available at: <http:// www. telegraph.co. uk/news/ worldnews/ asia/ Bangladesh /10075098/Poor-quality-construction-materials-to-blame-for-deadly-Bangladesh-factory-collapse.html> [accessed on 01 May 2015].

World Health Organization., (2013). Building Collapse in Savar, Dhaka, Bangladesh: report of a Country Office for Bangladesh. Available at :< https: //www. google. com.bd /url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwi5zPbr5fvJAhUNkI4KHQb6AN4QFggbMAA&url=http%3A%2F%2Fwww.searo.who.int%2Fentity%2Femergencies%2FBuilding_CollCollapsed_in_Savar_13May2013_Sitrep6.pdf&usg=AFQjCNGz4WAwbvPYJqZSDBUreotZUozmVg&sig2=RfMPctKrXFKy3S3ceKnNvA> [accessed on 22 October 2015].

Zhang, X., Hu, X., Reinhardt, J. D., Zhu, H., Gosney, J. E., Liu, S., and Li, J. (2012). Functional outcomes and health-related quality of life in fracture victims 27 months after the Sichuan earthquake. Journal of Rehabilitation Medicine, 44: 206–209.

Zibulewsky, J., (2010). Defining disaster: the emergency department perspective. Baylor University Medical Centre, 14(2):144-9.

APPENDIX- 1

Informed consent

(Please read out to the participant)

I am asking you to participate in a research study. This form is designed to give you information about this study. I will describe this study to you and answer any of your questions. I am Saifuddin Ahmed, 4th Year B.Sc in Physiotherapy student, BHPI, CRP, Savar, Dhaka-1343. My project title is "**Quality of life among the Rana Plaza victim patients.**" The purpose of this research is to find out the quality of life among the victims of Rana plaza after rehabilitation. So that, I will ask you to know any kind of physically problems of you after rehabilitation due to Rana plaza. This will take approximately 20 - 30 minutes.

During the interview period if you fell any emotional disturbance, social and economical risk and any other discomfort physical risk please tell me, I will stop the interview immediately. I am committed that the study will not harmful or risk for you. There is no payment for taking part in the study. All information provided by you will be treated as confidential and in the event of any report or publication it will be ensured that the source of information remains anonymous.

Your participation in this study is voluntary and you may withdraw yourself at any time during this study without any negative consequences. You also have the right not to answer a particular question that you don't like or do not want to answer during interview. If you have any query about the study or your right as a participant, you may contact with Saifuddin Ahmed, researcher and/ or my supervisor Md. Shofiqul Islam, Assistant Professor - BHPI.

Do you have any questions before I start?

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

YES ☐ NO ☐

Signature of Participants & Date Signature of Investigator & Date

APPENDIX 2

সম্মতিপত্র (অংশগ্রহণকারীকে পড়ে শোনাতে হবে)

আসসালামুআলাইকুম / নমস্কার,

আমার নাম সাইফুদ্দিন আহমেদ, আমি এই গবেষণা প্রকল্পটি বাংলাদেশ হেলথ প্রফেসনস ইন্সটিটিউট (বিএইচপিআই), ঢাকা বিশ্ববিদ্যালয় – এ পরিচালনা করছি যা আমার ৪র্থ বর্ষ বি এস সি ফিজিওথেরাপি কোর্সের অধিভুক্ত । আমার গবেষণার শিরোনাম হল **"রানা প্লাজায় আক্রান্ত রোগীদের জীবনযাত্রার মান"।** এই গবেষণার উদ্দেশ্য হলো পুনর্বাসনের পর রানা প্লাজা ট্র্যাজেডিতে শিকার হওয়া লোকজনের জীবনযাত্রার মান। আমি আপনাকে ব্যাক্তিগত এবং অস্থি পেশীয় অভিযোগ সম্পর্কে কিছু প্রশ্ন করতে চাই। এতে আনুমানিক ২০-৩০ মিনিট সময় লাগবে। রানা প্লাজা ট্র্যাজেডিতে শিকার হওয়ার পরে এবং পুনর্বাসনের পরে আপনার যে কোন সমস্যা জানার জন্য আমি আপনাকে কিছু প্রশ্ন করবো। এতে আপনার সময় লাগবে ২০-৩০ মিনিট। সাক্ষাতের সময় যদি আপনি কোন কারনে বিরক্ত অনুভব করেন এমনকি আপনার মানসিক, আর্থিক, সামাজিক অথবা শারীরিক ঝুঁকির অতবা যেকোনো সমস্যার সম্ভাবনা থাকলে দয়া করে আমাকে বলবেন এবং তৎক্ষণাৎ আমি আমার সাক্ষাৎকার কার্যকলাপ বন্ধ করে দিব। আমি প্রতিজ্ঞাবদ্ধও যে, আমার এই গবেষণাতে আপনার কোন ক্ষতি হবে না, এর জন্য আপনাকে কোন আর্থিক সহায়তা দেয়া হবে না, আপনার সকল ধরণের তথ্য এবং চিকিৎসা বিষয়ক তথ্য এবং প্রতিবেদন গোপন রাখা হবে অথবা এই তথ্যের উৎসগুলো নামবিহীন রাখা হবে, এই গবেষণাতে আপনার অংশগ্রহণ হবে স্বেচ্ছাকৃত এবং আপনি নেতিবাচক ফলাফল ছাড়া এই গবেষণা থেকে যে কোন সময় নিজেকে প্রত্যাহার করতে পারবেন। এছাড়া আপনি পছন্দ করেন না এমন কোন নির্দিষ্ট প্রশ্নের উত্তর না দেওয়ার অধিকারও আপনার আছে।

যদি আপনার আরও কিছু জানার আগ্রহ থাকে, তাহলে আপনি আমার সাথে অর্থাৎ সাইফুদ্দিন আহমেদ অথবা আমার তত্ত্বাবধায়ক মোঃ শফিকুল ইসলাম, সহকারী অধ্যাপক, ফিজিওথেরাপি বিভাগ, বিএইচপিআই, সিআরপি, সাভার, ঢাকা তে যোগাযোগ করতে পারেন।

শুরু করার পুর্বে আপনার কোন প্রশ্ন থাকলে আপনি করতে পারেন।

আপনার সম্মতি থাকলে আমি কি আপনার সাক্ষাত আরম্ভ করতে পারি?

হ্যাঁ ☐ না ☐

অংশগ্রহণকারীর স্বাক্ষর ও তারিখ ..... সাক্ষাৎকার গ্রহণকারীর স্বাক্ষর ও তারিখ .....

সাক্ষীর স্বাক্ষর ও তারিখ .....

APPENDIX - 3

Socio-demographic questionnaire for Rana Plaza survivors

Name of Interviewer: .....

Date of interview: …… Time of interview: ……

Part one: Respondent Identification

Name of Respondent:…… ID no: ……..

Address:…….....

..... Contact number where possible: …….

Part Two: Demographic Information

SN	Questions	Response	Code
01.	Sex	1.Male 2. Female	1 2
02.	How old are you?	Years:	
03.	What is the highest level of education you have completed?	1. Illiterate 2. Home education 3. Class (1-5) 4. Class(6-10) 5. Class(11-12) 6. Undergraduate 7. Post graduate degree	1 2 3 4 5 6 7

04.	What is your marital status?	1. Single 2. Married 3. Separated 4. Divorced 5. Unmarried	1 2 3 4 5

Part Three: Socio-economic Information

SN.	Questions	Response	Code
05.	Which one of this list best describes your main work status now?	1.Government employee 2.Non-government employee 3. Self-employed 4. Non-paid 5. Student 6. Homemaker 7. Trainee 8. Retired 9. Unemployed (able to work) 10. Unemployed (unable to work) 11. Others	1 2 3 4 5 6 7 8 9 10 11
06.	What is the nature of your work/job now?	1. Mostly involve physical effort 2. Mostly involve	1 2

		mental effort	
07.	Which one of this list best describes your work in RANA Plaza?	1. Non-paid 2. Unemployed (able to work) 3. Student 4. Homemaker 5. Guard 6. Worker 7. Supervisor 8. Unit in-charge 9. Shopkeeper 10. Officer 11. Manager 12. Self-employed 13. Others	1 2 3 4 5 6 7 8 9 10 11 12 13
08.	Type of disabilities	1. Permanent 2. Temporary	1 2
09.	Diagnosis	1. Amputation of Upper limb 2. Amputation of Lower Limb 3. Fracture 4. Spinal Cord Injury 5. Musculoskeletal dysfunction 6. Others	1 2 3 4 5 6
10.	What type of support has got from	1. Money	1

	Govt. Or non-govt. organization?	2. Shelter 3. Cattle 4. Goods 5. Vehicle 6. Land 7. Others 8. No support	2 3 4 5 6 7 8
11.	Support in amount of money		
12.	Are the support was satisfactory for you?	1. Yes 2. No	1 2
13.	Have you utilized the support meaningfully?	1. Yes 2. No	1 2

APPENDIX- 4

জনসংখ্যাতাত্ত্বিক তথ্যাবলি (Demographic Questionnaire)

তথ্য গ্রহণকারীর নাম .....

তথ্য নিবন্ধনের দিন ..... সময় .....

পর্ব ১-তথ্য প্রদানকারীর পরিচিত

তথ্য প্রদানকারীর নাম ..... আইডি নং .....

ঠিকানা..... মোবাইল .....

জনসংখ্যাতাত্ত্বিক তথ্যাবলি(Demographic Information)

ক্রমিক নং	প্রশ্নসমূহ	উত্তর	কোড
০১	লিঙ্গ	১=পুরুষ ২=মহিলা	১ ২
০২	আপনার বয়স কত?	বয়স=	
০৩	আপনি সর্বোচ্চ কোন শ্রেণী পর্যন্ত লেখাপড়া করেছেন?	১=অশিক্ষিত ২=গৃহশিক্ষা ৩=শ্রেণী(১-৫) ৪=শ্রেণী(৬-১০) ৫=শ্রেণী(১১-১২) ৬=স্নাতক পাশ ৭=স্নাতকোত্তর পাশ	১ ২ ৩ ৪ ৫ ৬ ৭

০৪	আপনার বৈবাহিক অবস্থা কি?	১=অবিবাহিত ২=বিবাহিত ৩=তালাকপ্রাপ্ত ৪=বিধবা/বিপত্নিক	১ ২ ৩ ৪
০৫	পাশের তালিকায় বর্তমানে কোন পদমর্যাদা আপনার জন্য উপযুক্ত?	১=সরকারী চাকুরীজীবী ২=বেসরকারী চাকুরীজীবী ৩=আত্মকর্মসংস্থান ৪=সেচ্ছাসেবী ৫=ছাত্র ৬=গৃহিণী ৭=প্রশিক্ষনার্থী ৮=অবসরপ্রাপ্ত ৯=বেকার(কর্মক্ষম ব্যাক্তি) ১০=বেকার(কর্মে অক্ষম ব্যাক্তি) ১১=অন্যান্য	১ ২ ৩ ৪ ৫ ৬ ৭ ৮ ৯ ১০ ১১
০৬	আপনার বর্তমান কাজের ধরন কেমন?	১=অফিস/প্রতিষ্ঠানভিত্তিক ২=মাঠকর্মী	১ ২

০৭	রানাপ্লাজায় কর্মরত অবস্থায় আপনি কোন পদমর্যাদায় অন্তর্ভুক্ত ছিলেন?	১=সেচ্ছাসেবী ২=বেকার(কর্মক্ষম ব্যাক্তি) ৩=ছাত্র ৪=গৃহিণী ৫=দারোয়ান(সিকিউরিটি) ৬=শ্রমিক ৭=সুপারভাইজার ৮=ইউনিটইনচার্জ ৯=দোকানদার ১০=অফিসার ১১=ম্যানেজার ১২=আত্মকর্মসংস্থান ১৩=অন্যান্য	১ ২ ৩ ৪ ৫ ৬ ৭ ৮ ৯ ১০ ১১ ১২ ১৩
০৮	কি ধরনের প্রতিবন্ধিতা?	১=স্থায়ী ২=সাময়িক	১ ২
০৯	প্রতিবন্ধিতার ধরন নির্ণয়-	১=হাতের অঙ্গহানী ২=পায়ের অঙ্গহানী ৩=ফ্রাকচার ৪=স্পাইনাল ইনজুরি ৫=হাড়মাংস পেশী সংক্রান্ত ৬=অন্যান্য	১ ২ ৩ ৪ ৫ ৬
১০	সরকারী বা বেসরকারী প্রতিষ্ঠান থেকে আপনি কি ধরনের সাহায্য পেয়েছেন?	১=অর্থ ২=বাসস্থান ৩=গবাদি পশুপাখি ৪=যানবাহন	১ ২ ৩ ৪

		৫=ভূমি ৬=অন্যান্য	৫ ৬
১১	আপনি কি সন্তুষ্ট?	১=হ্যাঁ ২=না	১ ২
১২	আপনি কি সাহায্য অর্থবহ ভাবে প্রয়োগ করতে পেরেছেন?	১=হ্যাঁ ২=না	১ ২

APPENDIX- 5

Permission for using WHO Quality of Life Scale

User Agreement for "WHOQOL-100" and/or WHOQOL-BREF and related materials

This agreement is between the World Health Organization ("WHO") and _____. WHO hereby grants the User a nonexclusive, royalty-free license to use the World Health Organization Quality of Life Questionnaire and/or related materials (hereafter referred to as "WHOQOL-100" or "WHOQOL-BREF") in User's study outlined below. The term of this User Agreement shall be for a period of 1 year, commencing on
(Date) _____.

The approved study for this User Agreement is:

Study Title	
Principal Investigator	
Sample characteristics	
Sample size	
Treatment Intervention	
Total number of assessments	
Assessment time points	
"WHOQOL-100" or WHOQOL-BREF version – Please specify language version(s) you would like to receive.	
Other measures	

This User Agreement is based upon the following conditions:

1. User shall not modify, abridge, condense, translate, adapt, recast or transform the WHOQOL-100 or BREF in any manner or form, including but not limited to any minor or significant change in wording or organization, or administration procedures, of the WHOQOL-100 or BREF. If User thinks that changes are necessary for its work, or if translation is necessary, User must obtain written approval from WHO in advance of making such changes.

2. User shall not reproduce WHOQOL-100 or BREF, except for the limited purpose of generating sufficient copies for its own uses and shall in no event distribute copies of the WHOQOL-100 or BREF to third parties by sale, rental, lease,

lending, or any other means. In addition, User agrees that it will not use the WHOQOL-100 or BREF for any purpose other than conducting studies as specified above, unless agreed in writing by WHO. In any event, the WHOQOL-100 or BREF should not be used for research or clinical purposes without prior written authorization from WHO.

3. User agrees to provide WHO with an annual update regarding activities related to the WHOQOL-100 or BREF.

4. User agrees to provide WHO with a complete copy of User's raw data and data code books, including the WHOQOL-100 or BREF and any other instruments used in the study. This data set must be forwarded to WHO upon the conclusion of User's work. While User remains the owner of the data collected in User's studies, these data may be used in WHO analyses for further examining the psychometric properties of the WHOQOL-100 or BREF. WHO asserts the right to present and publish these results, with due credit to the User as the primary investigator, as part of the overall WHOQOL-100 or BREF development strategy.

5. WHO shall be responsible for preparing and publishing the overall WHOQOL-100 or BREF results under WHO copyright, including:

    a. the overall strategy, administrative set-up and design of the study including the instruments employed;
    b. common methods used by two or more Users;
    c. the data reported from two or more Users ;
    d. the comparisons made between the data reported from the Users;
    e. the overall findings and conclusions.

6. User shall be responsible for publications concerning information developed exclusively by User and methods employed only by User. Publications describing results obtained by User will be published in User's name and shall include an acknowledgement of WHO. User agrees to send to WHO a copy of each such paper prior to its submission for publication.

7. WHO may terminate this User Agreement at any time, in any event. Should WHO terminate this User Agreement, User shall immediately cease all use of the WHOQOL100 or BREF and destroy or return all copies of the WHOQOL-100 or BREF. In the event of such termination, all other collateral materials shall be destroyed and no copy thereof shall be retained by User. Notwithstanding the return or destruction of the WHOQOL-100 or BREF and its collateral materials, User will continue to be bound by the terms of this User Agreement.

8. It is understood that this User Agreement does not create any employer/employee relationship. User and its affiliates are not entitled to describe themselves as staff members of WHO. User shall be solely responsible for the manner in which work on the project is carried out and accordingly shall assume full liability for any damage arising therefrom. No liability shall attach to WHO, its advisers, agents or employees.

Please confirm your agreement with the foregoing by signing and returning one copy of this letter to WHO, whereupon this letter agreement shall become a binding agreement between User and WHO.

WHO:

Dr. Somnath Chatterji
Health Statistics and Health Information Systems (HSI)
World Health Organization
Avenue Appia
Geneva 27
CH 1211 Switzerland

Date:

USER:

By: _____
Title: _____
Institution: _____
Address: _____
_____
_____
Date: _____

APPENDIX- 6

World Health Organization Quality of Life (WHOQOL-100)

WHOQOL-BREF

The following questions ask how you feel about your quality of life, health, or other areas of your life. I will read out each question to you, along with the response options. **Please choose the answer that appears most appropriate.** If you are unsure about which response to give to a question, the first response you think of is often the best one.

Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life **in the last four weeks.**

		Very poor	Poor	Neither poor nor good	Good	Very good
1.	How would you rate your quality of life?	1	2	3	4	5

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
2.	How satisfied are you with your health?	1	2	3	4	5

The following questions ask about **how much** you have experienced certain things in the last four weeks.

		Not at all	A little	A moderate amount	Very much	An extreme amount
3.	To what extent do you feel that physical pain prevents you from doing what you need to do?	5	4	3	2	1
4.	How much do you need any medical treatment to function in your daily life?	5	4	3	2	1
5.	How much do you enjoy life?	1	2	3	4	5
6.	To what extent do you feel your life to be meaningful?	1	2	3	4	5

		Not at all	A little	A moderate amount	Very much	Extremely
7.	How well are you able to concentrate?	1	2	3	4	5
8.	How safe do you feel in your daily life?	1	2	3	4	5
9.	How healthy is your physical environment?	1	2	3	4	5

The following questions ask about how completely you experience or were able to do certain things in the last four weeks.

		Not at all	A little	Moderately	Mostly	Completely
10.	Do you have enough energy for everyday life?	1	2	3	4	5
11.	Are you able to accept your bodily appearance?	1	2	3	4	5
12.	Have you enough money to meet your needs?	1	2	3	4	5
13.	How available to you is the information that you need in your day-to-day life?	1	2	3	4	5
14.	To what extent do you have the opportunity for leisure activities?	1	2	3	4	5

		Very poor	Poor	Neither poor nor good	Good	Very good
15.	How well are you able to get around?	1	2	3	4	5

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
16.	How satisfied are you with your sleep?	1	2	3	4	5
17.	How satisfied are you with your ability to perform your daily living activities?	1	2	3	4	5
18.	How satisfied are you with your capacity for work?	1	2	3	4	5
19.	How satisfied are you with yourself?	1	2	3	4	5

20.	How satisfied are you with your personal relationships?	1	2	3	4	5
21.	How satisfied are you with your sex life?	1	2	3	4	5
22.	How satisfied are you with the support you get from your friends?	1	2	3	4	5
23.	How satisfied are you with the conditions of your living place?	1	2	3	4	5
24.	How satisfied are you with your access to health services?	1	2	3	4	5
25.	How satisfied are you with your transport?	1	2	3	4	5

The following question refers to how often you have felt or experienced certain things in the last four weeks.

		Never	Seldom	Quite often	Very often	Always
26.	How often do you have negative feelings such as blue mood, despair, anxiety, depression?	5	4	3	2	1

Do you have any comments about the assessment?

_____

_____

[The following table should be completed after the interview is finished]

		Equations for computing domain scores	Raw score	Transformed scores*	
				4-20	0-100
27.	**Domain 1**	(6-Q3) + (6-Q4) + Q10 + Q15 + Q16 + Q17 + Q18 ☐ + ☐ + ☐ + ☐ + ☐ + ☐ + ☐	a. =	b:	c:
28.	**Domain 2**	Q5 + Q6 + Q7 + Q11 + Q19 + (6-Q26) ☐ + ☐ + ☐ + ☐ + ☐ + ☐	a. =	b:	c:
29.	**Domain 3**	Q20 + Q21 + Q22 ☐ + ☐ + ☐	a. =	b:	c:
30.	**Domain 4**	Q8 + Q9 + Q12 + Q13 + Q14 + Q23 + Q24 + Q25 ☐ + ☐ + ☐ + ☐ + ☐ + ☐ + ☐ + ☐	a. =	b:	c:

* See Procedures Manual, pages 13-15

APPENDIX- 7

World Health Organization Quality of Life (WHOQOL-100)

BANGLA

C. (WHOQOL-BREF) এ অংশের মূল্যায়ন, আপনি আপনার জীবন, স্বাস্থ্য ও জীবনের অন্যান্য দিক সম্পর্কে কি ভাবেন, সে সম্পর্কে দয়া করে সবগুলো প্রশ্নের উত্তর দিন। যদি কোন প্রশ্নের উত্তর কি হবে না বুঝেন তবে যেটিকে সবচেয়ে সঠিক মনে হবে সেই উত্তরটি দিন। এটা প্রায়ই প্রথম উত্তর হতে পারে।

আপনার মান, আশা, আনন্দ ও বিবেচ্য সমূহ স্মরন রাখুন। আমরা আপনার জীবনের গত দুসপ্তাহের কথা স্মরন করতে বলবো।

সবগুলো প্রশ্ন পড়ুন, আপনার অনুভূতি যাচাই করুন এবং পাশের ছকে যে উত্তরটি সবচেয়ে সঠিক মনে হবে সে নম্বরটিতে বৃত্ত তৈরী করুন।

		খুব খারাপ	খারাপ	ভালও নয় খারাপও নয়	ভাল	খুব ভাল
1. (G1)	আপনার জীবন যাত্রার মান কেমন?	1	2	3	4	5

		খুব অসন্তুষ্ট	অসন্তুষ্ট	সন্তুষ্টও নয় অসন্তুষ্টও নয়	সন্তুষ্ট	খুব সন্তুষ্ট
2. (G4)	আপনার স্বাস্থ্য নিয়ে কি আপনি সন্তুষ্ট?	1	2	3	4	5

নিচের প্রশ্নগুলো গত দুপ্তাহে নিম্নবর্নিত অভিজ্ঞতাগুলো কি পরিমানে হয়েছে সে সম্পর্কে ।

		একদম না	কম	মোটামুটি	বেশী	খুব বেশী
3. (F1.4)	শারীরিক ব্যথার জন্য আপনি কি পরিমান প্রয়োজনীয় কাজ থেকে বিরত ছিলেন?	1	2	3	4	5
4. (F11.3)	আপনার দৈনন্দিন কার্যক্রম ঠিক রাখতে চিকিৎসা কতটুকু প্রয়োজন?	1	2	3	4	5
5. (F4.1)	আপনি জীবনকে কতটুকু উপভোগ করেন?	1	2	3	4	5
6. (F24.2)	জীবনকে আপনার কতটুকু অর্থপূর্ন মনে হয়?	1	2	3	4	5

		একদম না	কম	মোটামুটি	বেশী	খুব বেশী
7. (F5.3)	আপনি কাজে কতটুকু মনসংযোগ করতে পারেন?	1	2	3	4	5
8. (F16.1)	আপনি দৈনন্দিন জীবনে কতটুকু নিরাপত্তা অনুভব করেন?	1	2	3	4	5
9. (F22.1)	আপনার ভৌত পরিবেশ কতটুকু স্বাস্থ্যকর?	1	2	3	4	5

নিচের প্রশ্নগুলোতে জানতে চাওয়া হয়েছে - গত দুই সপ্তাহে আপনি কতটুকু সম্পূর্নভাবে কোন কাজ করতে বা অভিজ্ঞতা লাভ করতে পেরেছেন।

		একদম না	কম	মোটামুটি	অধিকাংশ	পরিপূর্নভাবে
10. (F2.1)	আপনার কি প্রতিদিন কাজ করার মত শক্তি আছে?	1	2	3	4	5
11. (F7.1)	আপনি কি আপনার শরীরের গড়ন নিয়ে সন্তুষ্ট?	1	2	3	4	5
12. (F18.1)	আপনার কি প্রয়োজন মেটাতে যথেষ্ট টাকা আছে?	1	2	3	4	5
13. (F20.1)	আপনি কি দৈনন্দিন জীবন-যাপনের জন্য প্রয়োজনীয় তথ্য পান?	1	2	3	4	5
14. (F21.1)	অবসর কাটানোর/বিনোদনের সুযোগ আপনার কতটুকু আছে?	1	2	3	4	5

		খুব খারাপ	খারাপ	ভালও না মন্দও না	ভাল	খুব ভাল
15. (F9.1)	আপনি কতটা ভালভাবে চলাফেরা করতে পারেন?	1	2	3	4	5

নিচের প্রশ্নতে জানতে চাওয়া হয়েছে - গত দুসপ্তাহে আপনার জীবনের বিভিন্ন দিক নিয়ে আপনি কতটুকু সন্তুষ্ট?

		খুব অসন্তুষ্ট	অসন্তুষ্ট	সন্তুষ্টও নয় অসন্তুষ্টও নয়	সন্তুষ্ট	খুব সন্তুষ্ট
16. (F3.3)	আপনার ঘুম নিয়ে আপনি কতখানি সন্তুষ্ট	1	2	3	4	5
17. (F10.3)	দৈনন্দিন কাজ করার ক্ষমতা নিয়ে আপনি কতটুকু সন্তুষ্ট?	1	2	3	4	5
18. (F12.4)	আপনার কাজ করার ক্ষমতা/দক্ষতা (ক্যাপাসিটি) নিয়ে আপনি কতটুকু সন্তুষ্ট?	1	2	3	4	5
19. (F6.3)	নিজেকে নিয়ে আপনি কতটুকু সন্তুষ্ট?	1	2	3	4	5
20. (F13.3)	অন্যদের সাথে আপনার ব্যক্তিগত সম্পর্কসমূহ নিয়ে আপনি কতটুকু সন্তুষ্ট?	1	2	3	4	5
21. (F15.3)	আপনার যৌন জীবন নিয়ে আপনি কতটুকু সন্তুষ্ট?	1	2	3	4	5
22. (F14.4)	বন্ধুদের কাছ থেকে পাওয়া সাহায্যে আপনি কতটুকু সন্তুষ্ট?	1	2	3	4	5
23. (F17.3)	আপনি আপনার বাসস্থানের অবস্থা নিয়ে কতটুকু সন্তুষ্ট?	1	2	3	4	5
24. (F19.3)	আপনি যে স্বাস্থ্যসেবা পান তাতে কি সন্তুষ্ট?	1	2	3	4	5
25. (F23.3)	আপনি যাতায়াত ব্যবস্থা নিয়ে কতটুকু সন্তুষ্ট?	1	2	3	4	5

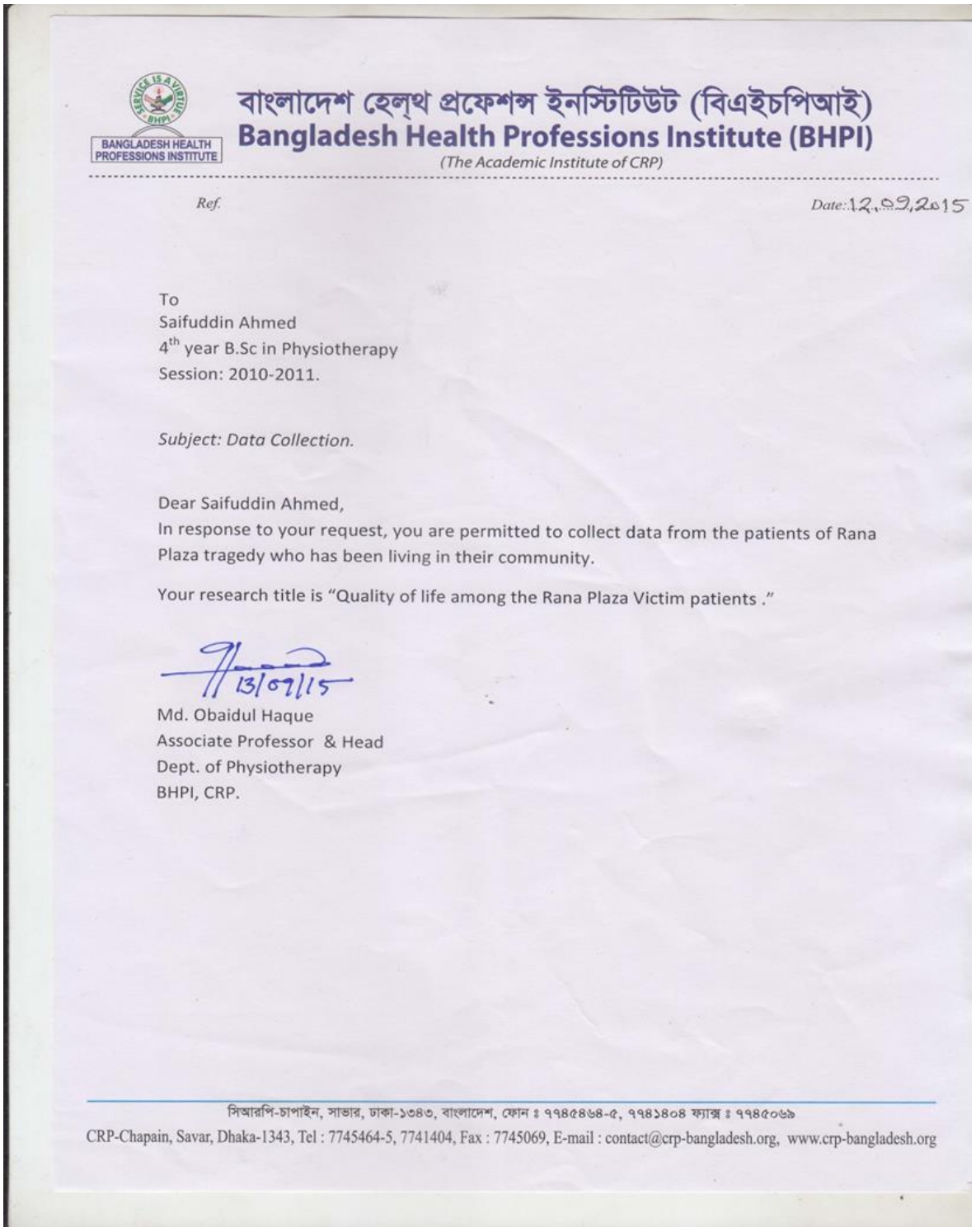
নিচের প্রশ্নগুলোতে জানতে চাওয়া হয়েছে - গত দুসপ্তাহে ঐ নির্দিষ্ট বিষয়সমূহ আপনি কতবেশী/ঘনঘন অনুভব করেছেন?

		কখনো না	কখনো কখনো	মাঝে মাঝে	প্রায়শঃই	সব সময়
26. (F8.1)	আপনার হতাশা, উদ্বেগ, অবসন্নতা এই সব নেতিবাচক অনুভূতি কত ঘন ঘন হয়?	1	2	3	4	5

(নিশ্চিত হোন যে সব প্রশ্নের উত্তর দেয়া হয়েছে।)

APPENDIX- 8

Permission Letter



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

BANGLADESH HEALTH PROFESSIONS INSTITUTE

Ref.

Date: 12.09.2015

To
Saifuddin Ahmed
4th year B.Sc in Physiotherapy
Session: 2010-2011.

Subject: Data Collection.

Dear Saifuddin Ahmed,
In response to your request, you are permitted to collect data from the patients of Rana Plaza tragedy who has been living in their community.

Your research title is "Quality of life among the Rana Plaza Victim patients ."

13/09/15

Md. Obaidul Haque
Associate Professor & Head
Dept. of Physiotherapy
BHPI, CRP.

সিআরপি-চাপাইন, সাভার, ঢাকা-১৩৪৩, বাংলাদেশ, ফোন ঃ ৭৭৪৫৪৬৪-৫, ৭৭৪১৪০৪ ফ্যাক্স ঃ ৭৭৪৫০৬৯
CRP-Chapain, Savar, Dhaka-1343, Tel : 7745464-5, 7741404, Fax : 7745069, E-mail : contact@crp-bangladesh.org, www.crp-bangladesh.org