



**Faculty of Medicine
University of Dhaka**

**KNOWLEDGE, ATTITUDE AND ACCEPTANCE OF COVID-19
VACCINATION AMONG THE PERSON WITH DISABILITIES.**

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

DU Roll: 823

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BHPI, CRP, Savar Dhaka-1343



Bangladesh Health Professions Institute (BHPI)

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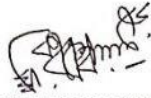
Bangladesh

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

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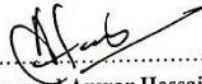
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Declaration

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

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Acronyms

BHPI: Bangladesh Health Profession Institute

CRP: Center for the Rehabilitation of the Paralyzed

CP: Cerebral Palsy

GBS: Guillain Barre Syndrome

HPV: Human Papilloma Virus

MMR: Measles, Mumps, Rubella

SCI: Spinal Cord Injury

SD: Standard Deviation

SPSS: Statistical Package for the Social Sciences

WHO: World Health Organization

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ABSTRACT

Background: The pandemic of 2019 Coronavirus Disease (COVID-19) resulted in significant and unheard-of disruptions. This study was to elicit the knowledge, attitude, and acceptance of covid-19 vaccination for persons with disabilities. **Objectives:** To demonstrate the socio-demographic information, Describe about health related information, explore disability related information, find out covid-19 and vaccine related information and determine Knowledge, Attitude and Acceptance level about covid-19 vaccine among disable people. **Methodology:** The dissertation was a descriptive study with a cross-sectional study design. Total of 241 participants was responded during data collection. Inclusion criteria were age ≥ 18 years, Patients were willing to participate in the study. Participants were selected by Hospital-Based random sampling. All data were collected through self-structured questionnaire having socio-demographic, health and disability related factors. A statistical test has been conducted as per the distribution of data. Descriptive statistics were performed by mean, SD, frequency, and percentage. Inferential statistics has been performed by Chi-square, independent t-test, One-way ANOVA, and Pearson correlation test. Binary logistic regression has been performed as predictor variables as Knowledge (Good/Excellent), residential area & type of disability. Here Alpha (α) value has been set as <0.05 . **Results:** The study showed that 156(64.7%) were male and 85(35.3%) were female. Only 42.7% (n=103) were from Rural area, 36.5%(n=88) were from urban areas and 20.7%(n=50) were from semi-urban areas. Spinal cord injury patients were 62.7%(n=151) where stroke patients were 22.4%(n=54), Amputation Patients was 10.8%(n=26) and Others Disable people were 4.1%(n=10).The mean knowledge score was 5.97, while the standard deviation was 2.314. **Conclusion:** Despite having less understanding and acceptance of the COVID-19 vaccine, people with disabilities generally have a more positive attitude toward vaccinations. The appropriate health authorities should provide and publicize immediate health education initiatives as well as more accurate information.

Key words: Knowledge, Attitude, and Acceptance, Covid-19, Vaccination and Person with disabilities.

Word count: 10520

1.1 Background

The 2019 Coronavirus Disease (COVID-19) pandemic caused significant and unprecedented disruptions. Globally, the pandemic of Coronavirus Disease 2019 (COVID-19) wrecked healthcare systems, posing unprecedented challenges. As of March 16, 2021, the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has infested over 120 million people and resulting in 2.66 million deaths (Dong et al., 2020). COVID-19 is largely a respiratory virus, causing mild rhinorrhea to severe respiratory distress syndrome (Huang et al., 2020). The elderly and those with a history of comorbidities such as hypertension, obesity, diabetes, or kidney illness are at a higher risk of infection with this virus (Bhatraju et al., 2020).

On March 11, 2020 (COVID-19) the World Health Organization officially announced it to be a pandemic. (W.H.O, 2021). Coronavirus-2, which is the causative agent of COVID-19, can cause anything from a mild respiratory infection to a life-threatening respiratory illness, pneumonia, and even death (Zhou et al., 2020).

As of April 2021, COVID-19 had caused disorder on the health and economy of numerous nations. The current 2019 coronavirus disease (COVID-19) pandemic, which is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), poses a significant threat worldwide, particularly to southeast Asian nations. (Chhetri et al., 2020).

Mortality increases significantly among the elderly and those with comorbidities such as cardiovascular disease, chronic renal disease, and chronic obstructive pulmonary disease (Verity R et al., 2020).

Although several drugs have been used to treat severe COVID-19 individuals (Van Doremalen et al., 2020), the US Food and Drug Administration has not approved any specific therapy. Vaccine development and distribution is therefore one of the most promising solutions to this problem. Coronavirus disease (COVID19) is a fatal infection that continues to afflict a large number of countries worldwide. This is caused by the recently identified coronavirus strain SARS-CoV-2, which has arisen as a global public health crisis (pal et al., 2020).

As of 6 February 2021, this pandemic had spread to 223 nations, with over 104.37 million confirmed cases and 22.71 million deaths (WHO, 2021). The incidence of the disease is higher in the Americas (46313540 cases and 1072244 deaths) and Europe (35003091 cases and 767235 deaths) than in South East Asia (12982540 cases and 199668 deaths), Africa (2616892 cases and 64473 deaths), and the Western Pacific (1466248 cases and 25526 deaths) (WHO, 2021).

COVID-19 was first detected in Bangladesh on 8 March 2020 (Islam MS et al., 2020). Since then, the country's new cases have been fast increasing. As of 6 February 2021, the government had confirmed 537465 COVID-19 positive cases and 8182 deaths (World meter Bangladesh, 2021).

Since SARS-CoV2 is a highly contagious virus that affects a wide range of people around the world, vaccinations are the most significant public health intervention and the most effective technique for protecting the population against COVID19. As the pandemic progresses, it is expected that additional, more effective COVID19 vaccines will be produced in an effort to combat its spread and potentially shocking impacts (Wibawa, T et al., 2021). There has never been a more critical time to measure public acceptance of COVID-19 shots than now (Reiter et al., 2020) since the vaccine is being widely distributed. On 27 January 2021, Bangladeshi authorities approved to use the Covidshield vaccine from India, and Runu (A Nurse) was the first recipient of the COVID-19 vaccine (Dhaka Tribune., 2020). However, there is a lot of debate in Bangladesh about immunizations for COVID-19. Some Bangladeshis are hesitant to receive the Indian vaccine for fear of contracting the disease (The Daily Star, 2021).

As of this study, 48 percent of the study population was doubtful if they would accept the COVID-19 vaccine (Lazarus et al., 2021). Despite the fact that the most efficient method of preventing the spread of the virus is to avoid contact with COVID-19, it is also vital to vaccinate the vulnerable population as soon as feasible (Xiao and Torok., 2020) Vaccines are a critical component of the attempt to halt the spread of the COVID19 pandemic. As of April 8, 2020, about 100 COVID-19 vaccine candidates were in development (Pogue et al., 2020).

Prior to March 30, 2020, two vaccine candidates have entered Phase 1 clinical trials (Lurie et al., 2020); nevertheless, by April 9, 2020, a total of five vaccine candidates were in Phase 1 clinical trials (Le et al., 2020). Given the size of the population and the

fact that it has a relatively high level of vaccine hesitancy for existing vaccines and a low vaccination rate, it is crucial to comprehend vaccine acceptance (Van Doremalen et al., 2020).

Given that actual or perceived vaccination efficacy may be low, it is also essential to comprehend how vaccine efficacy may affect acceptability. Concerning the potential for sensationalist, alarmist depictions of the epidemic, the extensive usage of news media is unsettling (Klemm et al., 2016). Moreover, myths, rumors, and misinformation can spread rapidly online, especially via social media (Vosoughi et al., 2018).

Social media may have contributed to the misunderstanding surrounding COVID19, such as whether people have innate immunity and whether some home remedies (garlic, vitamins, and saline nasal rinses) help protect against coronavirus. This may also explain some of the misunderstanding over the origins and intentional release of the virus. Uncertainty and frequently shifting facts may have contributed to the escalation of apprehension about the infection (Han et al., 2006).

These results highlight the importance of distributing accurate health information on COVID-19 through multiple channels (news, social media, and government websites) in order to reach the general public and correct misinformation. There may be a correlation between media exposure and the delivery of vital pandemic health information. As the pandemic advances, media fatigue, in which individuals become desensitized to constant messaging, may reduce this benefit (Collinson et al., 2015).

Additionally, repeated media exposure may result in increased stress and anxiety, which may have long-term health repercussions, as well as contribute to excessive or incorrect health-protective actions, such as presenting for diagnostic testing when the actual risk of exposure is minor (Garfin et al., 2020). According to new data from organizations that routinely test for the SARS-CoV-2 virus, between two and eight of every ten infections may be asymptomatic (Mizumoto and Nishiura, 2020).

Despite their asymptomatic status, persons afflicted are nonetheless capable of transmitting the virus (Bai and Zou, 2020). Additionally, it appears as though individuals are infectious and asymptomatic during the incubation phase (Lauer et al., 2020). Individuals frequently rely on symptoms to diagnose sickness and believe that their absence of symptoms indicates they are well (Diefenbach and Leventhal, 1996).

Such assumptions could have major ramifications in the COVID-19 pandemic, both in terms of community transmission and decreased health-protective practices. As a result, public health efforts promoting awareness of COVID-19 must address these myths. Uncertainty surrounds the COVID-19 vaccinations. To begin, the new mRNA-based vaccinations may be met with some suspicion as a unique technique, as no prior experience or success with this approach has been documented. Additionally, the rapid development and approval of vaccines in less than a year may have aided in lowering the acceptability threshold. Another global phenomenon that has contributed to this low level is the proliferation of anti-vaccination campaigns spurred by new technologies and the rapid pace of vaccine development. Such social media efforts with forged, incorrect, and sometimes misleading translations contribute to some people's conspiracy theories. Certain country- and region-specific factors may also play a role in this. For instance, a segment of the population has lost trust in local governments and/or has expressed disapproval of the pandemic's general handling. Certain individuals express their dissatisfaction with numerous actions that may be unwanted, disproportional to the pandemic's position, unjustified, or unsupported by science. As with earlier pandemics, the COVID-19 pandemic is accompanied with feelings of fear, anxiety, and worry (Blakey and Abramowitz, 2017).

People were concerned not just about getting or transmitting the disease (Blakey and Abramowitz, 2017), but also about the social and economic ramifications of the steps adopted by governments to limit the pandemic and prevent human-to-human transmission (Nicola et al., 2020). These strategies include the implementation of unprecedented curfews and lockdowns, social separation and isolation, the closure of schools and universities, border closures, travel restrictions, and quarantine (Mannan and Farhana, 2020)

1.2 Rationale:

The deadly coronavirus disease (COVID19) continues to spread worldwide. The new coronavirus strain SARS-CoV-2 is raising grave public health concerns on a global scale. The WHO declared a pandemic of COVID-19 on March 11, 2020. On March 8, 2020, the first COVID-19 case in Bangladesh was reported. Since then, the number of new cases in the country has risen severely. As SARSCoV2 is highly contagious and impacts communities worldwide, vaccines are the most significant and effective public health strategy against COVID19. To adopt the most successful COVID-19 immunization approach in Bangladesh, we must understand the knowledge, attitudes, and Acceptance of disabled individuals. In this scenario, the public's Knowledge, attitudes, and acceptance of COVID-19 are crucial to reducing all distribution hurdles for the vaccine. No prior research has been conducted on the knowledge, attitudes, and acceptance of the COVID-19 vaccine among disabled individuals in Bangladesh.

1.3 Research Question:

What are the knowledge, attitude and acceptance of covid-19 vaccination person with disabilities?

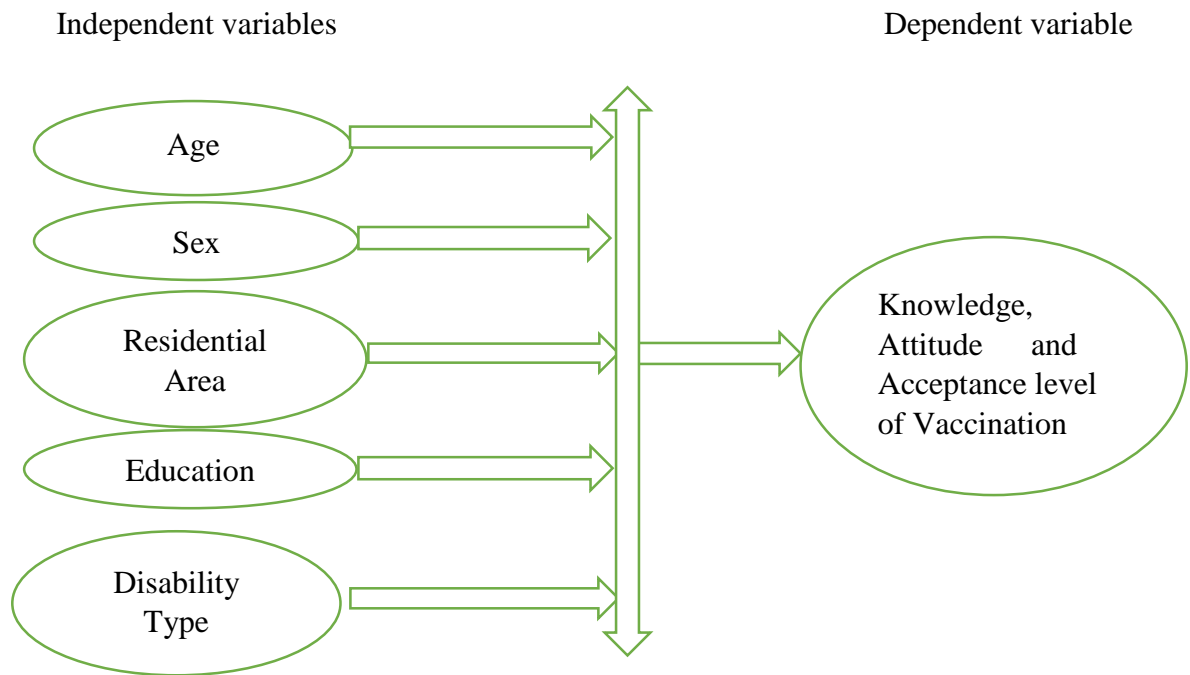
1.4 Aim of study:

To find out the knowledge, attitude and acceptance of covid-19 vaccination person with disabilities

1.5 Objectives of the study:

1. To demonstrate the socio-demographic (age, gender, marital status, residential area, education and Occupation) information.
2. To describe about health related (Co-morbidity, lung condition) information
3. To examine disability related information.
4. To find out covid-19 and vaccine related information.
5. To determine Knowledge, Attitude and Acceptance level about covid-19 vaccine among disable people.

1.6 List of Variable



1.7 Operational definition

Covid-19: Coronavirus disease (COVID-19), which is caused by the SARS-CoV-2 virus, is an infectious disease. Most people who get infected with the virus will have mild to moderate respiratory illness and get better on their own.

Vaccine: A substance that is used to make antibodies and protect against one or more diseases. It is made from the disease-causing agent, its products, or a synthetic substitute and is made to act as an antigen without causing the disease.

Disability: A physical or mental condition that makes it hard for a person to move, feel, or do things. Such as Spinal cord injury(SCI), Stroke, Amputation etc

The SARS-CoV-2 virus is the infectious disease known as coronavirus disease (COVID-19). Different people are affected by COVID-19 in various ways. The majority of infected individuals will experience mild to moderate sickness and recover without being hospitalized. The most typical symptoms include fever, coughing, fatigue, and a loss of smell or taste. Less frequent signs include a sore throat, headache, muscle aches, diarrhea, a skin rash, discoloration of the fingers or toes, and red or itchy eyes. The COVID-19 pandemic is still causing destruction around the world, with the United States bearing the brunt of the damage. The development of a vaccine represents the best hope for a long-term solution to the pandemic's control. Current human trials are being conducted on several coronavirus diseases (including COVID-19). In 2020, Mannan and Farhana published a paper in which they discuss their research findings. On the other hand, a vaccine must be accepted and used by a large majority of the population to be effective. The purpose of this study was to investigate the acceptability of COVID-19 vaccines and their predictors, as well as attitudes toward these vaccines among members of the general public (El-Elimat et al., 2021) Participants in this study, took part in an online survey from June to September 2020, and In the course of 60 nationally representative surveys, information was gathered from 26,852 adults aged 19 or older from six continents. This study aimed to identify potential acceptance rates and characteristics that influence acceptability of a COVID-19 vaccination. Two-thirds of those surveyed were at least moderately concerned about a widespread COVID-19 epidemic, according to the results. The acceptance rates varied from about 93% in Tonga to less than 43% in the rest of the world (in Egypt). Higher levels of trust in government information were connected with an increased likelihood of accepting a vaccine and complying with an employer's request to do so. Authorities in public health must adopt systematic efforts to reduce vaccine reluctance and enhance public acceptance of vaccines. These findings, notably the low acceptance rate, should prompt public health professionals to undertake additional research into the underlying causes and the necessity for public education efforts. As part of these measures, structured awareness campaigns that give transparent information regarding the safety and efficacy of vaccines and the technology employed in their production should be

conducted to rebuild public faith in national health authorities (Mannan and Farhana., 2020)

Another study found that a total of 6 226 participants filled out the questionnaire; of these, 41.36 percent believed that vaccines are safe, 69.02 percent agreed that vaccines are important to defend against COVID-19, and 55.1% approved of providing the vaccine once it became available. However, 37.86% did not believe that the advantages of immunizations exceeded the hazards. Health care professionals are the source of information for 22.07 percent of social media users, compared to 11.92 percent who rely on other sources. The gender, governorate, age, level of education, and marital status of the participants had a substantial impact on their attitudes and knowledge (P 0.001), as did their marital status (Al-Kafarna et al., 2020)

In a population-based research of people in the United States, Holingue et al (2020) found that fear and anxiety of contracting and dying from COVID-19 were associated with elevated psychological distress (Holingue et al., 2020). In addition, the hygienic care individuals took to avoid infecting others raised the likelihood of developing mental illness in the first place (Holingue et al., 2020). According to the findings of a comprehensive review and meta-analysis of the psychological and mental effects of COVID-19, the prevalence of anxiety and depression was 33 percent and 28 percent, respectively (Luo et al., 2020). During the COVID-19 epidemic, people utilized a variety of information sources to gather knowledge and health information about the disease. This includes television, radio, newspapers, Facebook and Twitter, as well as friends, coworkers, physicians, scientists, and government officials (Ali et al., 2020). People's acceptance or rejection of the COVID19 vaccine is influenced by such information sources; therefore, it is essential to disseminate transparent and accurate information about the vaccinations' safety and efficacy in order to gain their trust, especially among hesitant and skeptical individuals (Siegrist and Zingg., 2014). For any future national immunization effort to be successful, we must understand the most trusted sources of information regarding COVID-19 vaccinations.

In a following study, it was determined that the availability of information resources affected the acceptability of the COVID-19 vaccine among South Carolina college students. Students place the most faith in scientists (83 percent), healthcare providers (74 percent), and health agencies (70 percent) (Qiao et al., 2020).

When parents reported receiving information about MMR and HBV vaccines from their healthcare practitioners, their immunization practices and acceptance of the vaccines were superior to when parents reported receiving information via the internet or family members (Charron et al., 2020). Recent research has demonstrated that hand hygiene and other health-promoting activities are connected with a reduced psychological impact of the COVID-19 outbreak in China, including lowered levels of stress and anxiety (Wang et al., 2020). According to the researchers, these findings underline the need of encouraging the general public to engage in these practices, not only to lower the chance of infection but also to alleviate the anxiety associated with COVID-19.

Over the past decade, it has performed a detailed assessment of the landscape of vaccination trust challenges and the international experiences of countries dealing with vaccine confidence crises (Larson et al., 2018). In addition to numerous surveys and focus groups, in-depth qualitative research, and large-scale digital media analytics (Larson et al., 2016), convening expert roundtables and workshops to understand context-specific attitudes toward vaccines among the general public (Larson et al., 2018), health-care professionals and providers (Larson et al., 2018), and pregnant women (Larson et al., 2018). It continues to examine the origins, patterns, and effects of vaccination confidence concerns at the national and supranational levels to guide policy and trust-building actions and lessen the need for immunization program administrators to engage in crisis management. Although numerous factors impact vaccine decisions (SAGE, 2014), trust in the necessity, safety, and efficacy of vaccinations as well as the compatibility of immunization with religious views have been recognized as the most important drivers of public confidence in vaccines (SAGE, 2014). These findings led to the invention of a survey instrument, the Vaccine Confidence Index, which evaluates individual beliefs of the safety, significance, efficacy, and religious compatibility of immunizations. The research questionnaire is meant to be readily integrated into existing worldwide surveys, with a particular emphasis on assessing confidence across many countries while limiting the questionnaire to a minimum. The survey is among a variety of metrics and indices used to measure confidence or hesitancy, such as the Parent Attitudes About Childhood Vaccines Survey, which measures vaccine hesitancy among parents (Opel et al., 2013); the Vaccination Confidence Scale, which measures confidence in vaccination (Opel et

al., 2013); and the Vaccination Hesitancy Scale, which measures hesitancy in vaccination (Wagner et al., 2019).

In 2017, Sanofi announced that their newly introduced dengue vaccination Dengvaxia constituted a risk to persons who had never been exposed to the virus, prompting fury and alarm among a population in whom almost 850 000 youngsters had received the vaccine the year prior. As the researchers established a baseline confidence value in 2015, they were able to measure the change in confidence after the vaccine panic and identified a significant reduction in trust in the importance, safety, and efficacy of vaccines (Larson et al., 2019). Although confidence is not restored to 2015 levels, the survey study method has detected a gain in confidence across the nation, indicating a probable recovery and emphasizing the relevance of the technique in judging the success of national-level policies. This may be a result of the 2013 human papillomavirus (HPV) vaccination safety scares and the following decision by the Japanese Ministry of Health, Labor, and Welfare to cease the proactive recommendation of the HPV vaccine in June 2013. (Simms et al., 2020). As a result of this vaccine safety panic, HPV vaccination coverage fell from 68.4–74.0% in the 1994–1998 birth cohort to 0.6% in the 2000 birth cohort. 36 The news that Japan has discontinued its proactive recommendation of the HPV vaccine has travelled globally through internet media and social media networks, and has been praised by anti-vaccination groups but not by the global scientific community (Larson et al., 2014). In addition, there was a significant decline in confidence in Indonesia between 2015 and 2019, which was partially caused by Muslim leaders questioning the safety of the measles, mumps, and rubella (MMR) vaccine and ultimately issuing a fatwa, or religious ruling, stating that the vaccine was haram and contained ingredients derived from pigs, making it unacceptable for Muslims. Local healers offering natural vaccination alternatives also contributed to a decline in vaccine confidence (Yufika et al., 2020). In South Korea and Malaysia, internet anti-vaccine activism has been recognized as a serious impediment to immunization (Chang and Lee, 2019). In South Korea, an online group called ANAKI (Korean abbreviation for "raising children without medication") has fought childhood immunization passionately (Park et al., 2018).

The Internet is a key source of vaccination information in Malaysia, where misinformation has been found as impacting vaccine aversion (Mohid Azizi et al., 2017). In 2008, it was determined that unsubstantiated vaccine safety fears, exacerbated by the media, had a substantial impact on a statewide MMR vaccination program in Georgia (Khetsuriani et al., 2010). In addition, several Asian research have established a correlation between the perception of risk or susceptibility to infection and support for vaccination (Rajamoorthy et al., 2019). High perceived risk was also linked with COVID-19 vaccination adoption among members of the general community in Saudi Arabia (Padhi and Almohaithef, 2020) and among healthcare personnel in China (Padhi and Almohaithef, 2020). The sense of low danger may correspond not only with vaccination acceptance, but also with adherence to social distance measures and other public health countermeasures. These interactions may be complex; for example, a person who hastily complied with personal distancing procedures may estimate their risk to be minimal, but yet want to receive a vaccine. A lowered perception of risk may contribute to an older population's lower vaccine uptake. Although senior citizens are more susceptible to COVID-19, the majority of pensioners in Southeast Asian countries have limited mobility and spend more time at home and less time abroad. These actions may result in a diminished impression of the risk of SARS-CoV-2 infection, which may ultimately lead to a decrease in vaccination acceptance. Additionally, their acceptance may be affected by their understanding of the disease. The majority of COVID-19 information is shared through social media and online media; which older persons view less frequently. Consequently, older persons may be exposed to less information regarding COVID-19, which may influence their sense of risk. In addition, the use of social media by the elderly may be connected with a lack of knowledge, which may influence their risk perception and vaccine uptake.

3.1 Study design:

The study design was a descriptive cross-sectional study. The research was conducted on patients admitted to the center for the rehabilitation of the paralyzer's injury department.

3.2 Data collection period:

The Study period was from February, 2022 to May, 2022.

3.3 Study site:

The researcher collected data from the Spinal cord injury(SCI) unit, Neurology Unit, Department of physiotherapy, CRP, Savar, Dhaka 1343, and Department of Prosthesis and orthosis, CRP, Savar, Dhaka 1343.

3.4 Study population

A person with disabilities. In this study, participants from the Centre for the Rehabilitation of the Paralyzed (CRP) in Savar, Dhaka

3.5 Sample size

The sampling procedure for a cross-sectional study is done by the following equation-

$$n = \frac{Z^2 pq}{e^2}$$

$$n = \frac{(1.96)^2 \cdot (0.1) \cdot (1-0.1)}{(0.05)^2}$$

$$n = 138.2976$$

$$n = 139$$

Here,

$$Z \text{ (confidence level)} = 1.96$$

$$P \text{ (prevalence)} = 10\%$$

$$q = (1-p)$$

$$= (1-0.1)$$

$$= 0.9$$

$$e \text{ (Margin of error)} = 5\% = 0.05$$

The calculated sample size was 139. I started to collect data to meet the calculated sample size and could collect total 241 data.

3.6 Sampling technique:

Due to the limited time available, samples had been chosen using the Hospital-based Random sampling technique with fixed time duration.

3.7 Selection criteria

3.7.1 Inclusion criteria

- The patients attended at CRP and also around the CRP.
- Both male and female patients were selected.
- Age ≥ 18 years' old
- The patients who were willing to participate in the study.
- The patients with intact cognitive function were included.

3.7.2 Exclusion criteria

- patients who were medically unstable.
- Unconscious patient.
- Age < 18 years' old.
- The patients with impaired cognitive function.
- The patients were not willing to participate in the study.

3.8 Data Collection Tools:

The self-structure Questionnaire consists of five parts including Socio-demographic, Health Disability-related information, Knowledge, Attitude, and Acceptance was used to conduct this study.

3.9 Data collection:

To collect data, face-to-face interviews were utilized. The sample size was calculated as a scientific estimate of sampling and selected as the sample's standard size for use as a calculation guide. (Depends on inclusion and exclusion criteria.)

3.10 Questionnaire:

A self-structured questionnaire was generated containing informed consent into the 1st page where the participants were informed about the purpose of the study along with their voluntary participation and assured that their information would be kept confidential and will not be harmful to them yet they can withdraw at any time without any negative consequences.

The 1st part of the questionnaire was designed to gather socio-demographic information with 13 questions related to Date of interview, Address, Mobile number, Consent taken, Age, Sex, Marital status, Residential area, Education, Occupation, family member, Earning Member and monthly income.

In the 2nd part Health Disability-related information was taken out with 12 questions as like; Type of disability, Method of mobility? Do you have any Co-morbidity? have you been diagnosed with COVID 19? Taken COVID 19 Vaccine? If yes, how many doses?

The 3rd part was consisting of 10 score question related to knowledge about COVID-19 Vaccination.

The 4th part of the questionnaire was consisting of 3 questions related to attitude toward the government should take the initiatives to vaccinate everyone. Does Vaccine protection against the COVID-19? Benefits of vaccine.

The 5th part of the questionnaire was consisting of 3 questions related to Acceptance for COVID-19 Vaccination.

3.10 Data analysis

The data analysis was performed in SPSS version 20.0 and Microsoft office excel 2016 was used to decorate the data. The variable was determined as nominal, ordinal, interval, ratio data and considered their parametric and non-parametric properties based on data type, normality test, and standard procedure (Table no: 01). The statistical test had been performed as descriptive and inferential statistics based on parametric or non-parametric properties (Table no: 02) The descriptive statistics were performed as frequency and percentage in nominal and ordinal data. On the other hand, mean and standard deviation had been calculated for interval and ratio data. The inferential statistic had been performed as to determine the relationship between the various variables, Chi-Square, independent T-test, and one-way ANOVA and Pearson correlation tests were performed. Binary logistics were also conducted (Table no 02 :). The alpha level of significance was set at $P < 0.05$. All results provided insight into the Knowledge, Attitude, and Acceptance of the Covid-19 vaccination among disabled individuals.

3.11 Statistical Test

3.11.1 Determination of nature of data

The variable was determined as nominal, ordinal, interval, ratio data & considered their parametric & non-parametric properties based on data type, normality test, and standard procedure (Hicks, 2009).

Table 01: Normality test for different variable

Variable	Description	Data type	Normality test	Data distribution
Age overall		Ratio	P= (0.001), (0.001)	Parametric
Gender	Male Female	Nominal		Non-parametric
Marital Status	Married Unmarried Divorced Widow	Nominal		Non-parametric
Residential area	Rural Semi-urban Urban	Nominal		Non-parametric
Education	Non-education Primary Secondary Higher Secondary Graduate Postgraduate	Ordinal		Non-parametric
Occupation	Farmer Rickshaw puller Garment worker, Driver Businessmen Day laborer Teacher Student Unemployed Serviceholder Housewife Others	Nominal		Non-parametric

Monthly income	0-10000 10001-50000 50000-100000 100001-1000000	Ordinal		Parametric
Disability Type	Spinal cord injury, Stroke, Amputation and Others.	Nominal		Non-parametric
Experiencing Duration of Disability	In month	Ratio	P= (0.001), (0.001)	Parametric
Method of mobility	Wheel chair, Crutches, Walk and Others	Nominal		Non-parametric
Co-morbidity	Diabetes Mellitus, Hypertension, Asthma Heart disease, Epilepsy, Others	Nominal		Non-parametric
Pre-existing lung condition.	Yes No	Nominal		Non-parametric
Diagnosed covid-19	Yes No	Nominal		Non-parametric
Taken covid-19 vaccine	Yes No			Non-parametric
Number of covid-19 vaccine	In number	Ratio	P= (0.001), (0.001)	Parametric
Duration of 1 st doses	In number	Interval	P= (0.001), (0.001)	Parametric

Duration of 2 nd doses	In number	Interval	P= (0.001) (0.001)	Parametric
Duration of 3 rd doses	In number	Interval	P= (0.001) (0.001)	Parametric
Total Knowledge score	In Number	Ratio	P= (0.001) (0.001)	Parametric
Do you think that the government should take initiatives to vaccinate Everyone.	Yes No May be	Nominal		Non-parametric
It is possible for vaccine to enhance protection against the covid-19 for person with disability.	Yes No May be	Nominal		Non-parametric
Do you believe, the benefits of vaccines usually outweigh the risks for person with disability	Yes No May be	Nominal		Non-parametric
If a COVID-19 vaccine is	Yes No	Nominal		Non-parametric

available with an efficacy in any percentage, would you be a candidate for receiving all shots.	May be			
If a COVID-19 vaccine is available with the desired efficacy, would you encourage your family and friends to get the vaccine.	Yes No May be	Nominal		Non-parametric
If covid-19 vaccine have a minimum side effects, would you get your shot.	Yes No May be	Nominal		Non-parametric

3.11.2 Determination of statistical test

The statistical had been performed as descriptive and interferential statistics based on parametric or non-parametric properties. The descriptive statistics were performed as frequency & percentage in nominal and ordinal data. Mean and standard deviation had been calculated for interval and ratio data.

The inferential statistic had been performed as follow:

Table 02: Inferential statistical test

Purpose	Variable	Statistical test
Relationship	Two (2) categorical data (non-parametric)	Chi-square test
	One categorical (non- parametric) and one parametric data	Independent t-test (independent bi-variate data)
		One way ANOVA (independent Trivariate)
		Chi-square test (independent multi-variant data)
	Two (2) parametric data	Pearson correlation
Regression of relationship	Dependent Bivariate as categorical data (Bivariate)	Binary logistic regression

3.12 Ethical consideration

The proposal for research was submitted to the Institutional Review Board of Bangladesh Health Professions Institute for approval (BHPI). Again Before collecting data, authorization was obtained from the department head of physiotherapy. Participants who were interested in participating in the study were verbally informed of the investigation's topic and goal. Participants were also advised that each interview might last between 10 and 15 minutes. The researcher respected issues of privacy and confidentiality. All participants provided written consent. The researcher described the specifics of the research topics and his or her position in this investigation. The researcher obtained a formal consent form for each subject, which included the participant's signature and career. The participants were informed that they could comprehend the permission form and that their participation was entirely voluntary. Participants were advised explicitly that their information would remain private. Participants were promised that participation in the study would not be detrimental. It was explained that there may be no direct advantage to the participants from the study. The researcher ensured the confidentiality of all participant-related information. The participants have the ability to withdraw their consent and terminate participation in the CRP at any time without affecting their current or future care.

4.1 Socio-demographic information of the participants:

Table no: 03

Variables	Description of data (Mean \pm SD, Frequency (%))
Age overall	41.21 \pm 13.358
Age in category	
11-30 years	67(27.8%)
31-50 years	119(49.4%)
51-70 years	52(21.6%)
71-90 years	3(1.2%)
Gender	
Male	156(64.7%)
Female	85(35.3%)
Marital Status	
Married	194(80.4%)
Unmarried	37(15.4%)
Divorced	2(0.8%)
Widow	8(3.3%)
Education	
Non-education	36(14.9%)
Primary	28(11.6%)
Secondary	61(25.3%)
Higher Secondary	55(22.8%)
Graduate	51(21.2%)
Postgraduate	10(4.1%)

Residential area	
Rural	103(42.7%)
Semi-urban	50(20.7%)
Urban	88(36.5%)
Occupation	
Farmer	18(7.5%)
Rickshaw puller	3(1.2%)
Garment worker	4(1.7%)
Driver	5(2.1%)
Businessmen	32(13.3%)
Day laborer	11(4.6%)
Teacher	13(5.4%)
Student	22(9.1%)
Unemployed	10(4.1%)
Service holder	56(23.2%)
Housewife	55(22.8%)
Others	12(5%)
Family member	5.09±1.708 number
Earning member	1.55±0.865 number
Family Monthly income	30448.13±56109.031 BDT.
Family income in the category	
(0-10000)	26(10.8%)
(10001-50000)	206(85.5%)
(50000-100000)	4(1.7%)
(100001-1000000)	5(2.1%)

This Table contains different variables such as Age, category of age, Gender, Marital status, residential area, Education, Occupation, Family member, earning member, Monthly Income, and monthly income in Category.

Male was predominantly higher than female. Out of 241 participants, Male were 156(64.7%), and females were 85(35.3%). The mean age of the population was 41.21 ± 13.358 years. Participants' ages ranged from 11 years to 90 years. Among them, 27.8%(n=67) were in the age group between the range of 11-30 years. Also, 27.8% (n=67) of the respondents were found in the age group between 11-30 years, 49.4% (n=119) of them were in the age group between 31-50 years, 21.6%(n=52) of the participants were found in age and group between 51-70 and 1.2%(n=3) % were in the age group between 71-90. The researcher found that the married population is higher than the Unmarried, Divorced, and widow population. Married person was 80.4% (n=194), Unmarried person was 15.4% (n=37), Divorced person was 0.8%(n=2) and Widow participants was 3.3%(n=8). Most of the participant's education levels were secondary level 25.3% (n=61). After that higher secondary level was the second most common and the number was 22.8% (n=55). Non-education was 14.9%(n=36), Primary education level was 11.6% (n=28), participant's complete graduation level was 21.2%(n=51) and post-graduation level was only 4.1% (n=10). Only 42.7% (n=103) were from Rural area, 36.5%(n=88) were from urban areas and 20.7%(n=50) were from semi-urban areas. The table shows that the number of service holders is more than in other professions with 23.2%(n=56) of participants. 7.5% (n=18) are farmer, 1.2% (n=3) are Rickshaw puller, 4.6% (n=11) are day labor, 13.3% (n=32) are businessman, 1.7% (n=4) are garments worker, 2.1% (n=5) are driver, 5.4%(n=13) are teacher, 9.1%(n=22) are Student, 4.1%(n=10) are unemployed, 22.8%(n=55) are housewife and 5%(n=12) are others. Participants' mean \pm SD family member was 5.09 ± 1.708 . Participants' mean earning members was 1.55 ± 0.865 . Most of the participants were from low to medium economic conditions. 85.5%(n=206) persons were from family income range between (10001-50000), 10.8%(n=26) persons from range between (0-10000), 1.7%(n=4) persons from (50000-100000). Only 2.10%(n=2) of persons from the higher economic conditions range between (100001-1000000).

Health-Related Profile

Table no: 04

Variable	Description of data (Mean \pm SD, Frequency (%))
Pre-existing lung condition	
Yes	54(22.4%)
No	187(77.6%)
Co-morbidity	
Diabetes Mellitus	65(26.6%)
Hypertension	95(38.9%)
Asthma	60(24.6%)
Heart disease	19(7.8%)
Epilepsy	5(2%)

This table describes the pre-existing lung condition and co-morbidity of participants.

According to the results, 22.4% (n=54) of participants have a pre-existing lung condition, whereas 77.6% (n=187) do not.

This table also includes Co-morbidity, where 65 (26.6%) participants had Diabetes Mellitus, 95 (38.9%) had Hypertension, 60 (24.6%) had Asthma, and 19 (7.8%) had Heart Disease, and 5 (2%) had Epilepsy. Co-morbidity of Hypertension is more than other co-morbidities.

COVID-19 Related Experience:**Table no: 05**

Variables	Mean \pm SD, Frequency (%)
Diagnosed with COVID-19	
Yes	6(2.5%)
No	235(97.5%)
Treatment received	
Home management	6(2.5%)
Hospital management	0(0%)
Taken COVID-19 vaccine	
Yes	186(77.2%)
No	55(22.8%)
Number of 1st doses	186(77.2%)
Number of 2nd doses	168(69.7%)
Number of 3rd doses	6(2.5%)
Duration since COVID-19 positive	4.83 \pm 36.141 Days
Number of vaccine doses	1.49 \pm 0.871 Number
Duration since 1st dose	186.76 \pm 147.675 Days
Duration since 2nd dose	145.22 \pm 131.180 Days
Duration since 3rd dose	4.14 \pm 27.408 Days

This table includes the different variables: Diagnosed of covid-19, treatment of covid-19 positive, Taken covid-19 vaccine Duration since covid-19 positive, Number of vaccine doses, Duration since the first dose, Duration since the second dose, and Duration since the third dose.

According to the result, 6(2.5%) participants were diagnosed with covid-19 positive, and their mean±SD was 4.83±36.141 and all of them took treatment at-home management.

77.2%(n=186) participant taken covid-19 vaccine and 22.8%(n=55) not yet.

The number of vaccine doses duration between (1st, 2nd, and 3rd doses) and the last date of data collection Mean±SD was 1.49±0.871. 186(77.2%) participants take 1st dose of the covid-19 vaccine, 168(69.7%) participants take the second dose Covid-19 vaccine, and only 6(2.5%) take 3rd dose vaccine. Duration of 1st doses Mean±SD is 186.76±147.675, Duration of 2nd doses Mean±SD is 145.22±131.180, Duration of 3rd doses Mean±SD is 4.14±27.408

Disability-related profile:

Table no: 06

Variable	Mean \pm SD, Frequency (%)
Type of disability	
Spinal cord injury	151(62.7%)
Stroke	54(22.4%)
Amputation	26(10.8)
Others	10(4.1%)
Experiencing duration of disability	15.92 \pm 21.984 month
Method of mobility	
Wheelchair	162(67.2%)
Crutches	27(11.2%)
Walk	51(21.2%)
Others	1(0.4%)

This table describes different variables such as; Disability type, Duration of Disability, and Method of mobility.

According to the Result, Spinal cord injury patients are higher than among other disabilities patients. spinal cord injury patients are 62.7%(n=151) where stroke patients are 22.4%(n=54), Amputation Patients is 10.8%(n=26) and Others Disable people is 4.1%(n=10). (Other disabled people such as adult CP, GBS, Head injury patient's Multiple myeloma)

Wheelchair 67.2%(n=162) is more method of mobility than other moveable devices. And the mobility method like Crutches uses 11.2%(n=27), 21.2%(n=51) can walk with a disability and 0.4%(n =1) is using another mobility device.

Knowledge related information

Table no: 07

Variable	Category	Mean \pm SD, Frequency (%)
Knowledge Score	Scale	5.97 \pm 2.314
Knowledge Level	Ordinal	
Poor knowledge		40(16.6%)
Good knowledge		87(36.1%)
Excellent Knowledge		114(47.3%)

This table details the knowledge scores of people with disabilities. For better understanding, I categorized knowledge scores as (0-3) for poor knowledge, (4-6) for Good knowledge, and (7-10) for excellent knowledge.

The mean knowledge score was 5.97, while the standard deviation was 2.314. 40 individuals (16.6%) have poor knowledge, 87 participants (36.1%) have Good knowledge, and 114 participants (47.3%) have an Excellent Knowledge of the covid-19 vaccination of disabled people.

Attitude related information

Table no: 08

Variables		Frequency	Percent (%)
Do you think that the government should take initiative to vaccinate everyone?	Yes	215	89.2
	No	6	2.5
	May be	20	8.3
Vaccines can enhance protection against the covid-19 for A person with a disability?	Yes	182	75.5
	No	12	5
	May be	47	19.5
Do you believe, the benefits of vaccines usually outweigh the risks for a person with a disability?	Yes	99	41.1
	No	18	7.5
	May be	124	51.5

This table describes the Attitude related levels of disabled people. According to this table; Do you think that the government should take initiative to vaccinate everyone this question total yes choice 215(89.2%) participants, No 6(2.5%), and maybe choice 20(8.3%). Vaccines can enhance protection against the covid-19 for A person with a disability this question total Yes response 182(75.5%), No 12(5%), and Maybe 47(19.5%). Do you believe, the benefits of vaccines usually outweigh the risks for a person with a disability this question totals Yes responses 99(41.1%), No 18(7.5%), and Maybe 124(51.5%) participants.

Acceptance related information:

Table no: 09

Variables		Frequency	Percent (%)
If a COVID-19 vaccine is available with efficacy in any percentage, would you be a candidate for receiving all shots?	Yes	215	89.2
	No	4	1.7
	May be	22	9.1
If a COVID-19 vaccine is available with the desired efficacy, would you encourage your family and friends to get the vaccine?	Yes	158	65.6
	No	26	10.8
	May be	57	23.7
If the covid-19 vaccine has minimum side effects, would you get your shot for the vaccination?	Yes	53	22
	No	139	57.7
	May be	49	20.3

This table describes the Acceptance level of covid-19 vaccination among people with disabilities.

In this table; If a COVID-19 vaccine is available with the desired efficacy, would you encourage your family and friends to get the vaccine totally Yes choice 215(89.2%), No 4(1.7%), and maybe choose a total of 22(9.1%) participants. If a COVID-19 vaccine is available with the desired efficacy, would you encourage your family and friends to get the vaccine this question totaled Yes response 158(65.6%, No 26(10.8%), and maybe a choice total of 57(23.7%) participants and lastly, If the covid-19 vaccine has minimum side effects, would you get your shot for the vaccination total, yes response to this question was 52(22%), No 139(57.7%), and maybe a choice total of 49(20.3%)

ASSOCIATION

Knowledge about Covid-19 vaccination and **Independent variable (Age, gender, Residential area, Education, and Disability type of the participant)** have a relationship.

This table contained the test value and p values.

Table No:10 Association between the dependent (**Knowledge**) variable with the independent variable.

Independent Variable	Statistical Test	Test value	P-value
Age overall	Pearson correlation	1	0.042*
Age in category 11-30 years 31-50 years 51-70 years 71-90 years	Chi-Square test	29.992	0.185
Gender Male Female	Independent T-test	0.380	0.704
Residential area Rural Semi-urban Urban	One Way ANOVA	14.257	0.001***
Education Non-education Primary Secondary Higher Secondary Graduate Postgraduate	Chi-square	81.082	0.001***

Type of disability	Chi-square	82.261	0.001***
Spinal cord injury			
Stroke			
Amputation			
Others			

Alpha value: *= <0.05 , **= <0.01 , *= <0.001**

The observed age overall Pearson correlation test value was 1 and the level of significance was 5%. The p-value for age overall was ($p<0.042$). As a result, the result was not significant, indicating that there was no strong association between age overall and Knowledge.

The observed age in the category Chi-square test value was 29.992 and the level of significance was 5%. The overall p-value for age was ($p<0.185$). As a result, the result was not significant, indicating that there was no strong association between age in category and knowledge.

The gender Independent T-test, test value was .380, with a 5% level of significance. The gender p-value is ($p<0.704$). As a result, the outcome was not significant, indicating that there was no strong association between gender and Knowledge.

The Residential area one-way ANOVA test value was 14.257, with a 5% level of significance. The residential p-value was ($p<0.001$). As a result, the outcome was significant, indicating that there was a strong association between Residential area and Knowledge.

The Education Chi-square test value was 81.082, with a 5% level of significance. The gender p-value was ($p<0.001$). As a result, the outcome was significant, indicating that there was a strong association between educational level and Knowledge.

The type of disability Chi-square test value was 82.261, with a 5% level of significance. The gender p-value was ($p<0.001$). As a result, the outcome was significant, indicating that there was a strong association between disability type and Knowledge.

ATTITUDE

Table No:11 Association between the dependent (**Attitude**) variable with the independent variable (**Age in Category**).

Dependent variable: Attitude level of Covid-19 vaccination			
Dependent variable	Test	Test value	P-value
Govt. Should take initiatives to vaccinate everyone. Yes No/Maybe	Chi-square	2.197	0.533
Vaccine protection against the covid-19. Yes No/maybe	Chi-square	5.022	0.170
Benefits of the vaccine. Yes No/Maybe	Chi-square	1.861	0.602

Government should take an effort to vaccinate everyone in this age group and with this attitude. The Chi-square test value was 2.197 at a significance level of 5%. The p-value for the age category was ($p < 0.533$). Consequently, the result was insignificant, showing that there was no clear correlation between age in category and government attitude Should make efforts to vaccinate everyone.

The age in the category and Attitude Level of Vaccine protection against the covid-19 this question The Chi-square test value was 5.022, with a 5% level of significance. The age in category p-value was ($p < 0.170$). As a result, the outcome was not significant, indicating that there was not a strong association between age in category and attitude toward Vaccine protection against the covid-19.

The age in the category and Attitude Level of Benefits of the vaccine this question The Chi-square test value was 1.861, with a 5% level of significance. The age in category p-value was ($p < 0.602$). As a result, the outcome was not significant, indicating that there was not a strong association between age in category and Attitude toward the Benefits of the vaccine.

Table No:12 Association between the dependent (**Attitude**) variable with the independent variable **Gender**.

Dependent variable: Attitude level of Covid-19 vaccination			
Dependent variable	Test	Test value	P-value
Govt. Should take initiatives to vaccinate everyone. Yes No/Maybe	Chi-square	26.428	0.001***
Vaccine protection against the covid-19. Yes No/maybe	Chi-square	17.105	0.001***
Benefits of the vaccine. Yes No/Maybe	Chi-square	14.544	0.001***

Government should take an effort to vaccinate everyone with gender and with this attitude. The Chi-square test value was 26.428 at a significance level of 5%. The p-value for gender was ($p < 0.001$). Consequently, the result was significant, showing that there was a correlation between gender and government attitude Should make efforts to vaccinate everyone.

The gender and Attitude Level of Vaccine protection against the covid-19 this question The Chi-square test value was 17.105, with a 5% level of significance. The gender p-value was ($p < 0.001$). As a result, the outcome was significant, indicating that there was a strong association between gender and attitude toward Vaccine protection against the covid-19.

The gender and Attitude Level of Benefits of the vaccine this question The Chi-square test value was 14.544, with a 5% level of significance. The gender p-value was ($p < 0.602$). As a result, the outcome was significant, indicating that there was a strong association between gender and Attitude toward the Benefits of the vaccine.

Table No:13 Association between the dependent (**Attitude**) variable with the independent variable **Residential area**.

Dependent variable: Attitude level of Covid-19 vaccination			
Dependent variable	Test	Test value	P-value
Govt. Should take initiatives to vaccinate everyone. Yes No/Maybe	Chi-square	5.974	0.050*
Vaccine protection against the covid-19. Yes No/maybe	Chi-square	11.040	0.004**
Benefits of the f vaccine. Yes No/Maybe	Chi-square	7.923	0.019*

Government should take an effort to vaccinate everyone in the Residential area with this attitude. The Chi-square test value was 5.974 at a significance level of 5%. The p-value for the residential area was ($p < 0.050$). Consequently, the result was significant, showing that there was a small correlation between Residential areas and government attitudes Should make efforts to vaccinate everyone.

The residential area and Attitude Level of Vaccine protection against the covid-19 this question The Chi-square test value was 11.040, with a 5% level of significance. The residential area p-value was ($p < 0.004$). As a result, the outcome was significant, indicating that there was a good association between a residential area and attitude toward Vaccine protection against the covid-19.

The residential area and Attitude Level of Benefits of the vaccine this question The Chi-square test value was 7.923, with a 5% level of significance. The residential area p-value was ($p < 0.019$). As a result, the outcome was significant, indicating that there was a small association between the residential area and Attitude toward the Benefits of the vaccine.

Table No:14 Association between the dependent (**Attitude**) variable with the independent variable **Educational Status**.

Dependent variable: Attitude level of Covid-19 vaccination			
Dependent variable	Test	Test value	P-value
Govt. Should take initiatives to vaccinate everyone. Yes No/Maybe	Chi-square	10.308	0.067
Vaccine protection against the covid-19. Yes No/maybe	Chi-square	26.371	0.001***
Benefits of the vaccine. Yes No/Maybe	Chi-square	17.742	0.003**

Government should take an effort to vaccinate everyone in education with this attitude. The Chi-square test value was 10.308 at a significance level of 5%. The p-value for Education was ($p < 0.067$). Consequently, the result was not significant, showing that there was no correlation between Education and government attitudes Should make efforts to vaccinate everyone.

The Education and Attitude Level of Vaccine protection against the covid-19 this question The Chi-square test value was 26.371, with a 5% level of significance. The Education p-value was ($p < 0.001$). As a result, the outcome was significant, indicating that there was a strong association between Education and attitude toward Vaccine protection against the covid-19.

The Education and Attitude Level of Benefits of the vaccine this question The Chi-square test value was 17.742, with a 5% level of significance. The Education p-value was ($p < 0.003$). As a result, the outcome was significant, indicating that there was a good association between Education and Attitude toward the Benefits of the vaccine.

Table No:15 Association between the dependent (**Attitude**) variable with the independent variable **Disability type**.

Dependent variable: Attitude level of Covid-19 vaccination			
Dependent variable	Test	Test value	P-value
Govt. Should take initiatives to vaccinate everyone. Yes No/Maybe	Chi-square	2.384	0.497
Vaccine protection against the covid-19. Yes No/maybe	Chi-square	6.650	0.084
Benefits of the vaccine. Yes No/Maybe	Chi-square	26.546	0.001***

Government should take an effort to vaccinate everyone with the type of disability with this attitude. The Chi-square test value was 2.384 at a significance level of 5%. The p-value for the type of disability was ($p < 0.497$). Consequently, the result was not significant, showing that there was no correlation between the type of disability and government attitudes. Should make efforts to vaccinate everyone.

The type of disability and Attitude Level of Vaccine protection against the covid-19 this question. The Chi-square test value was 6.650, with a 5% level of significance. The type of disability p-value was ($p < 0.084$). As a result, the outcome was not significant, indicating that there was no association between type of disability and attitude toward Vaccine protection against the covid-19.

The type of disability and Attitude Level of Benefits of the vaccine this question. The Chi-square test value was 26.546, with a 5% level of significance. The type of disability p-value was ($p < 0.001$). As a result, the outcome was significant, indicating that there was a strong association between type of disability and Attitude toward the Benefits of the vaccine.

ACCEPTANCE

Table No:16 Association between the dependent (**Acceptance**) variable with the independent variable **Age in the category**.

Dependent variable: Acceptance level of Covid-19 vaccination			
Dependent variable	Test	Test value	P-value
Efficacy of any percentage of vaccine, would you be a candidate for receiving all shots. Yes No/Maybe	Chi-square	12.580	0.006**
Available efficacy vaccine efficacy encourages your family and friends to get the vaccine. Yes No/maybe	Chi-square	7.370	0.061
Minimum side effects of the vaccine, would you get your shot for the vaccination. Yes No/Maybe	Chi-square	3.316	0.345

Category of age and Efficacy of any percentage of vaccine, would you be a candidate for receiving all shots this question chi-square test value was 12.580 with a 5% level of significance. The category of age p-value was ($p=0.006$). As a result, the outcome was significant, indicating that there was a good association between the Category of age and the Efficacy of any percentage of vaccine, would you be a candidate for receiving all shots this question is from the Acceptance part.

Category of age and Available efficacy vaccine efficacy encourages your family and friends to get the vaccine this question chi-square test value was 7.370 with a 5% level of significance. The category of p-value was ($p=0.061$). As a result, the outcome was not significant, indicating that there was no association between Category of age and Available efficacy vaccine efficacy encourages your family and friends to get the vaccine this question is from the Acceptance part.

Category of age and Minimum side effects of the vaccine, would you get your shot for the vaccination this question chi-square test value was 3.316 with a 5% level of significance. The category of age p-value was ($p=0.345$). As a result, the outcome was not significant, indicating that there was no association between the Category of age and the Minimum side effects of the vaccine, would you get your shot for the vaccination this question is from the Acceptance part.

Table No:17 Association between the dependent (**Acceptance**) variable with the independent variable **Gender**.

Dependent variable: Acceptance level of Covid-19 vaccination			
Dependent variable	Test	Test value	P-value
Efficacy of any percentage of vaccine, would you be a candidate for receiving all shots. Yes No/Maybe	Chi-square	11.577	0.001***
Available vaccine efficacy would encourage your family and friends to get the vaccine. Yes No/maybe	Chi-square	4.805	0.34
Minimum side effects of the vaccine, would you get your shot for the vaccination. Yes No/Maybe	Chi-square	1.445	0.258

Gender and Efficacy of any percentage of vaccine, would you be a candidate for receiving all shots this question chi-square test value was 11.577 with a 5% level of significance. Gender p-value was ($p=0.001$). As a result, the outcome was significant, indicating that there was a strong association between the Gender and the Efficacy of any percentage of vaccine, would you be a candidate for receiving all shots this question is from the Acceptance part.

Gender and Available efficacy vaccine efficacy encourage your family and friends to get the vaccine this question's chi-square test value was 4.805 with a 5% level of significance. The gender p-value was ($p=0.34$). As a result, the outcome was not significant, indicating that there was no association between Gender and Available efficacy vaccine efficacy encourages your family and friends to get the vaccine this question is from the Acceptance part.

Gender and Minimum side effects of the vaccine, would you get your shot for the vaccination this question's chi-square test value was 1.445 with a 5% level of significance. The gender p-value was ($p=0.258$). As a result, the outcome was not significant, indicating that there was no association between the Gender and the Minimum side effects of the vaccine, would you get your shot for the vaccination this question is from the Acceptance part.

Table No:18 Association between the dependent (**Acceptance**) variable with the independent variable **Residential area**.

Dependent variable: Acceptance level of Covid-19 vaccination			
Dependent variable	Test	Test value	P-value
Efficacy of any percentage of vaccine, would you be a candidate for receiving all shots. Yes No/Maybe	Chi-square	6.794	0.033*
Available vaccine efficacy would encourage your family and friends to get the vaccine. Yes No/maybe	Chi-square	3.222	0.200
Minimum side effects of the vaccine, would you get your shot for the vaccination. Yes No/Maybe	Chi-square	0.150	0.928

Residential area and Efficacy of any percentage of vaccine, would you be a candidate for receiving all shots this question chi-square test value was 6.794 with a 5% level of significance. Residential area p-value was ($p=0.033$). As a result, the outcome was significant, indicating that there was a small association between the Residential area and the Efficacy of any percentage of vaccine, would you be a candidate for receiving all shots this question is from the Acceptance part.

The residential area and Available efficacy vaccine efficacy encourage your family and friends to get the vaccine this question's chi-square test value was 3.222 with a 5% level of significance. Residential area p-value was ($p=0.200$). As a result, the outcome was not significant, indicating that there was no association between Residential area and Available efficacy vaccine efficacy encourages your family and friends to get the vaccine this question is from the Acceptance part.

The residential area and Minimum side effects of the vaccine, would you get your shot for the vaccination this question's chi-square test value was 0.150 with a 5% level of significance. Residential area p-value was ($p=0.928$). As a result, the outcome was not significant, indicating that there was no association between the Residential area and the Minimum side effects of the vaccine, would you get your shot for the vaccination this question is from the Acceptance part.

Table No:19 Association between the dependent (**Acceptance**) variable with the independent variable **Educational status**.

Dependent variable: Acceptance level of Covid-19 vaccination			
Dependent variable	Test	Test value	P-value
Efficacy of any percentage of vaccine, would you be a candidate for receiving all shots. Yes No/Maybe	Chi-square	11.263	0.046*
Available vaccine efficacy would encourage your family and friends to get the vaccine. Yes No/maybe	Chi-square	10.451	0.063
Minimum side effects of the vaccine, would you get your shot for the vaccination. Yes No/Maybe	Chi-square	8.270	0.142

Education and Efficacy of any percentage of vaccine, would you be a candidate for receiving all shots this question chi-square test value was 11.263 with a 5% level of significance. Education p-value was ($p=0.046$). As a result, the outcome was significant, indicating that there was a small association between the Education and the Efficacy of any percentage of vaccine, would you be a candidate for receiving all shots this question is from the Acceptance part.

Education and Available efficacy vaccine efficacy encourage your family and friends to get the vaccine this question's chi-square test value was 10.451 with a 5% level of significance. Education p-value was ($p=0.063$). As a result, the outcome was not significant, indicating that there was no association between Education and Available efficacy vaccine efficacy encourages your family and friends to get the vaccine this question is from the Acceptance part.

Education and Minimum side effects of the vaccine, would you get your shot for the vaccination this question's chi-square test value was 8.270 with a 5% level of significance. Education p-value was ($p=0.142$). As a result, the outcome was not significant, indicating that there was no association between the Education and the Minimum side effects of the vaccine, would you get your shot for the vaccination this question is from the Acceptance part.

Table No:20 Association between the dependent (**Acceptance**) variable with the independent variable **Disability type**.

Dependent variable: Acceptance level of Covid-19 vaccination			
Dependent variable	Test	Test value	P-value
Efficacy of any percentage of vaccine, would you be a candidate for receiving all shots. Yes No/Maybe	Chi-square	4.102	0.251
Available vaccine efficacy would encourage your family and friends to get the vaccine. Yes No/maybe	Chi-square	8.671	0.034*
Minimum side effects of the vaccine, would you get your shot for the vaccination. Yes No/Maybe	Chi-square	10.153	0.017*

Disability type and Efficacy of any percentage of vaccine, would you be a candidate for receiving all shots this question chi-square test value was 4.102 with a 5% level of significance. The disability type p-value was ($p=0.251$). As a result, the outcome was not significant, indicating that there was no association between the Disability type and the Efficacy of any percentage of vaccine, would you be a candidate for receiving all shots this question is from the Acceptance part.

Disability type and Available efficacy vaccine efficacy encourage your family and friends to get the vaccine this question's chi-square test value was 8.671 with a 5% level of significance. The disability type p-value was ($p=0.034$). As a result, the outcome was significant, indicating that there was a small association between Disability type and Available efficacy vaccine efficacy encourages your family and friends to get the vaccine this question is from the Acceptance part.

Disability type and Minimum side effects of the vaccine, would you get your shot for the vaccination this question's chi-square test value was 10.153 with a 5% level of significance. The disability type p-value was ($p=0.017$). As a result, the outcome was significant, indicating that there was a small association between the Disability type and the Minimum side effects of the vaccine, would you get your shot for the vaccination this question is from the Acceptance part.

Regression:

Table no:21 Factor associated with knowledge and independent variable (Residential area, and disabilities type) (Binary logistic)

Predictor variable	Dependent variable(knowledge)				
	NK-R ²	β	P	OR	95% CI
Residential area	0.173	1.614	0.001***	5.025	3.336 63.194
Disabilities type	0.164	1.800	0.001***	5.025	2.840 12.891

According to binary logistic findings, knowledge of covid-19 vaccination where the predictable variable is Residential area is associated with Knowledge about covid-19 vaccination among persons with disabilities. (P=.001***, OR=5.025, 95% CI=3.336, 63.194). Here the coefficient value is a positive, linear relationship between knowledge and a residential area. I predict that urban people's knowledge is good and more excellent than others.

Disabilities person type is divided into two categories Spinal cord injury, with stroke, amputation, and others being the predictable variable (P=.001***, OR=5.025, 95% CI=28.40, 12.891). Here the coefficient value is a positive, linear relationship between knowledge and a disabilities type. I predict that non-SCI people's knowledge is good and more excellent than others.

Age, gender, marital status, educational status, and occupation were taken into consideration as demographic variables. In this study total number of participants were 241. This study age of the participants was above 18 years and there was 4 group of age range among them the age range between 31- 50 years, which showed a maximum number of 119 participants (49.4%). In my study, participants' mean age was 41.21 years with a standard deviation ± 13.358 which is partially similar to the study of Elhadi M et al., (2021). Among a total of 241 participants, males were higher than females where 194 participants were married and it is higher than unmarried, divorced, and widow participants. It is similar to the study of (Islam M et al., 2021). Most of them were Secondary and higher secondary levels of education. Most of the participants live in a rural area where the number of the participants were 103(42.7%) and which is also similar to the study of (Islam M et al., 2021). Another study showed that the total number of participants was 26,852. And this study age of the participants was above 19 years and there was 6 group of age range among them the age range between 30-49 years, which showed a maximum number of participant (36.50%) (Mannan and Farhana., 2020)

In this study, 241 participants were selected who were been disabled. Total spinal cord injury participants were 151(62.7%), stroke participants were 54(22.4%), Amputation 26(10.8%), and other disabled participants were 10(4. 1%).In this study, the duration since incidence mean was 15.92 with a standard deviation ± 21.984 months. Which is related to (Moghimian et al., 2015). Another study showed that total 2158 participants were selected who were been affected in cancer. Where Head and neck cancer 203 (9.41%), Respiratory and thoracic cancer 579 (26.83%), Digestive tract cancer 703 (32.58%) Urogenital cancer 136 (6.30%), Gynecologic cancer 3215.06%), Other type of cancer 152 (7.04%) Multiple types of cancer 60 (2.78%). (Hong et al., 2022)

In this study 6(2.5%) participants were diagnosed with covid-19 positive, and their mean±SD was 4.83±36.141 days. Elhadi.,2021 showed their study participants, 485 (3.2%) were infected with COVID-19 at the time of the study. 77.2%(n=186) had participants taken covid-19 vaccine. Hong et al., 2022 showed their study a total of 767(35.54%) participants took the Covid-19 vaccine. In my study Participants took 1st dose of the covid-19 vaccine, 168(69.7%) participants took the second dose Covid-19 vaccine, and only 6(2.5%) took 3rd dose vaccine. This study is partially similar to the study of Elhadi M et al., 2021.

The mean knowledge score was 5.97, while the standard deviation was 2.314 out of 10. 40 individuals (16.6%) have poor knowledge, 87 participants (36.1%) have Good knowledge, and 114 participants (47.3%) have Excellent Knowledge of the covid-19 vaccination of disabled people. Another study showed partially similar to the study The mean score of knowledge was 2.83 (standard deviation = 1.48) out of 5 (Islam M et al., 2021). For better understanding, I categorized knowledge scores as (0-3) for poor knowledge, (4-6) for Good knowledge, and (7-10) for excellent knowledge. The number of 40 individual participants (16.6%) have poor knowledge, 87 participants (36.1%) have Good knowledge, and 114 participants (47.3%) have Excellent Knowledge of the covid-19 vaccination of disabled people.

In this investigation, I made use of replies to questions about the acceptance (yes, no, and maybe) and questions about attitudes (yes, no, and maybe). On the other hand, (Adetayo et al., 2021) use replies to questions about the acceptance (yes and no). (Al-Kafarna, M et al., 2022) use replies to questions about attitude (agree, disagree, and don't know).

Microsoft Excel 2019 and SPSS version 20.0 were used to complete the data analysis. For data cleansing, editing, sorting, and coding, Microsoft Excel was utilized. The Excel document was then loaded into the SPSS program. First-order analysis (i.e., chi-square tests, Pearson correlation) and descriptive statistics (i.e., frequencies, percentages, means, standard deviations) were done. Independent t-tests or one-way ANOVA tests were used to examine whether the mean knowledge scores were significantly related to the independent variable. Finally, in a linear regression analysis using knowledge as the dependent variable, components that significantly differed in terms of knowledge were

included. All statistical tests were deemed significant with a confidence range of 95 percent and a p-value. In our research, we find The observed Pearson correlation test value for age was 1, and the significance level was 5%. The Residential area one-way ANOVA test value was 14.257, with a 5% level of significance. The residential p-value was ($p < 0.001$). As a result, the outcome was significant, indicating that there was a strong association between Residential area and Knowledge. The Education Chi-square test value was 81.082, with a 5% level of significance. The gender p-value was ($p < 0.001$). As a result, the outcome was significant, indicating that there was a strong association between educational level and Knowledge. The type of disability Chi-square test value was 82.261, with a 5% level of significance. The gender p-value was ($p < 0.001$). As a result, the outcome was significant, indicating that there was a strong association between disability type and Knowledge.

This description is partially comparable to (Islam M et al., 2021) and likewise describes their research as; Microsoft Excel 2019 and SPSS version 25.0 were used to complete the data analysis (Chicago, IL, USA). For data cleansing, editing, sorting, and coding, Microsoft Excel was utilized. The Excel document was then loaded into the SPSS program. First-order analysis (i.e., chi-square tests, Fisher's exact test) and descriptive statistics (i.e., frequencies, percentages, means, standard deviations) were conducted. Similarly, t-tests or one-way ANOVA tests were conducted to evaluate significant relationships between the mean scores on knowledge and attitudes and socio-demographic data. In the final step, components that differed significantly in terms of knowledge and attitude ratings were included in a multivariate linear regression analysis using knowledge and attitudes as the dependent variables, respectively. All statistical tests were deemed significant with a p-value less than 0.05 and a confidence range of 95 percent.

5.1 Limitations

The interpretation of the findings from this study needs to take into account several restrictions, which are described below. To begin, given that this was a cross-sectional study, it is impossible to infer any kind of causality from the results obtained using regression models. In this sense, the importance of a longitudinal study cannot be overstated. The second limitation of the research is that it relied on a face-to-face interview self-reporting method, which could have been affected by social acceptability and memory biases. The poll, on the other hand, was conducted before the most recent vaccination season in Bangladesh; hence, its conclusions could be different now that the vaccine campaign has been carried out.

6.1 CONCLUSION:

The COVID-19 pandemic is still destroying lives and livelihoods all across the world, but the development of a vaccine against the virus offers a possible reflection of hope for the future. The current study found that disabled persons had inadequate Knowledge and acceptance of COVID-19 immunizations, but that they have a more positive attitude regarding the vaccinations overall. According to the findings, immediate health education initiatives, as well as more accurate information, should be given and advertised by respective health authorities. The vaccine hesitancy that is aided and fostered by misinformation in the media should be reduced by policymakers taking steps to provide proper understanding, positive attitudes, and acceptance regarding COVID-19 vaccines.

6.2 RECOMMENDATION:

After completing the research, the researcher found some recommendations. In the case of the Result, the discussion researcher found both positive and limited negative experiences of disabled persons. Should take more samples for generating the result and make it more valid and reliable. Samples should collect from different areas in different district questionnaires of Bangladesh to generalize the result. Data had collected from the person with disabilities to find out an effective and efficient result in knowledge, attitude, and acceptance of covid 19 vaccinations.

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APPENDICES

APPENDICES-I

CONSENT FORM

Assalamu-alaikum

My name is Md. Akter Hossain, student of B.Sc in Physiotherapy at Bangladesh Health Professions Institute (BHPI), CRP. I am conducting a study for partial fulfillment of Bachelor of Science in Physiotherapy degree, titled, "**Knowledge, Attitude, and Acceptance of COVID-19 Vaccination among the Person with Disabilities**".

Through this research, I will find out the Knowledge, Attitude, and Acceptance of COVID-19 Vaccination among the Disabilities Person. For this purpose, I would need to collect data from the patient having Disability. Considering the area of research, you have met the inclusion criteria and I would like to invite you as a participant of this study. If you participate in this study, I will give you particular intervention & evaluate the Knowledge, Attitude, and Acceptance of COVID-19 Vaccination. The interventions that will be given are safe and will not cause any harm. Your participation will be voluntary. You may have the right to withdraw consent and discontinue participation during data collection or up to 1 month of data collection. If you have any query about the study or your right as a participant, you may contact with, researcher **Md. Akter Hossain (mobile No: 01877783375)** or my supervisor, **Kazi Md. Amran Hossain (mobile No:01735661492)**, Lecturer, BHPI, CRP, Savar, Dhaka. In case of any issues, you also have the liberty to contact with IRB, **Muhammad Millat Hossain**, Associate Professor, Dept. of Rehabilitation Science, Member Secretary, Institutional Review Board (IRB) BHPI, CRP, Savar, Dhaka-1343, Bangladesh. (Email: millatcbr@yahoo.com; mscrehabscience@crp-bangladesh.org)

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

অনুমতি ফরম

আসসালামু আলাইকুম,

আমার নাম মোঃ আখতার হোসেন, বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউট (বিএইচপিআই), সিআরপি ডিপার্টমেন্ট অব ফিজিওথেরাপিতে অধ্যয়নরত ছাত্র। আমি ফিজিওথেরাপি ডিগ্রীতে ব্যাচেলর অফ সায়েন্সের আংশিক পরিপূর্ণতার জন্য একটি অধ্যয়ন পরিচালনা করছি, যার শিরোনাম, "প্রতিবন্ধী ব্যক্তিদের মধ্যে কোভিড-১৯ টিকাদানের জ্ঞান, মনোভাব এবং গ্রহণযোগ্যতা"।

এই গবেষণার মাধ্যমে আমি প্রতিবন্ধী ব্যক্তিদের মধ্যে কোভিড-১৯ টিকাদানের জ্ঞান মনোভাব এবং গ্রহণযোগ্যতা বের করব। এই উদ্দেশ্যে, আমাকে প্রতিবন্ধী রোগীর কাছ থেকে তথ্য সংগ্রহ করতে হবে। গবেষণার ক্ষেত্রে বিবেচনা করে, আপনি অন্তর্ভুক্তির মানদণ্ড পূরণ করেছেন এবং আমি আপনাকে এই গবেষণায় অংশগ্রহণকারী হিসাবে আমন্ত্রণ জানাতে চাই। আপনি যদি এই গবেষণায় অংশগ্রহণ করেন, আমি আপনাকে কোভিড-১৯ টিকা গ্রহণের জ্ঞান, মনোভাব এবং গ্রহণযোগ্যতা সম্পর্কিত কিছু প্রশ্ন জিজ্ঞেস করব। যে হস্তক্ষেপগুলি দেওয়া হবে তা নিরাপদ এবং কোনও ক্ষতি করবে না। আপনার অংশগ্রহণ স্বৈচ্ছায় হবে। ডেটা সংগ্রহের সময় বা ডেটা সংগ্রহের ১ মাস পর্যন্ত আপনার সম্মতি প্রত্যাহার করার এবং অংশগ্রহণ বন্ধ করার অধিকার থাকবে। যদি গবেষণা সম্পর্কিত বা অংশগ্রহণকারী হিসাবে আপনার কোন প্রশ্ন থাকে তাহলে যোগাযোগ করতে পারেন, গবেষক মোঃ আখতার হোসেন (মোবাইল নং: ০১৮৭৭৭৮৩৩৭৫) বা আমার সুপারভাইজার, কাজী মোঃ আমরান হোসেন (মোবাইল নং: ০১৭৩৫৬৩১৪৯২) প্রভাষক, বিএইচপিআই, সিআরপি, সাভার, ঢাকা-১৩৪৩। অথবা যেকোন সমস্যার ক্ষেত্রে, (আই আর বি), মুহাম্মদ মিল্লাত হোসেন, সহযোগী অধ্যাপক, পুনর্বাসন বিজ্ঞান বিভাগ, সদস্য সচিব, ইনস্টিটিউশনাল রিভিউ বোর্ড (আই আর বি) বিএইচপিআই, সিআরপি, সাভার, ঢাকা-১৩৪৩, বাংলাদেশ- (ইমেল: millatcbr@yahoo.com; mscrehabscience@crp-bangladesh.org) এর সাথে যোগাযোগ করার স্বাধীনতা রয়েছে।

তাহলে, ইন্টারভিউ নিয়ে এগিয়ে যাওয়ার জন্য আমি কি আপনার সম্মতি পেতে পারি? হ্যাঁ.....

আমি ফর্মের বিষয়বস্তু পড়েছি এবং বুঝতে পেরেছি। আমি স্বৈচ্ছায় এই গবেষণায় অংশগ্রহণ করতে সম্মত।


অংশগ্রহণকারীর স্বাক্ষর.....
তারিখ.....

APPENDICES-II

Questionnaire

TITLE: Knowledge, Attitude, and Acceptance of COVID-19 Vaccination among the Person with Disabilities.

Interview schedule		
Part I: patient's Identification & Socio-demographic questions.		
1.1	Date of Interview:	
1.2	Address:	
1.3	Mobile number:	
1.4	Consent Taken:	Yes / No

Please select your correct answer and marked the answer through circle “  ”

QN	Questions	Response/Answer	Code
1.5	Age	Please Write	
1.6	Sex	Male	01
		Female	02
1.7	Marital status	Married	01
		Unmarried	02
		Divorced	03
		Widow	04
1.8	Residential area	Rural	01
		Semi-urban	02
		Urban	03

1.9	Education	Non-education	01
		Primary	02
		Secondary	03
		Higher Secondary	04
		Graduate	05
		Postgraduate	06
1.10	Occupation	Farmer	01
		Rickshaw puller	02
		Garment worker	03
		Driver	04
		Businessmen	05
		Day-laborer	06
		Teacher	07
		Student	08
		Unemployed	09
		Service holder	10
		Housewife	11
		Others (specify).....	12
1.11	Family member	Write in number	
1.12	Earning member	Write in number	
1.13	Monthly income	Write in BDT	

Part II: Health and Disability related information

QN	Questions	Response/Answer	Code
2.1	Type of disability		
2.2	How long are you experiencing Disability?		In months
2.3	What's your method of mobility?	Wheel chair Crutches Walk Others (Specify).....	01 02 03 04
2.4	Do you have any Co-morbidity?	Diabetes Mellitus Hypertension Asthma Heart disease Epilepsy Others (Specify).....	01 02 03 04 05 06
2.5	Do you have pre-existing lung condition?	Yes No	01 02
2.6	Do you Diagnosed Covid-19?	Yes No	01 02
2.7	If yes, mention Date and Treatment	Date..... Treatment.....	
2.8	Taken covid19 vaccine	Yes No	01 02
2.9	If yes, how many doses?	Write in number	
2.10	Date of 1 st dose	
2.11	Date of 2 nd dose	
2.12	Date of Booster dose	

Part III: Knowledge

Q N	Question	Response/Answer	Code
3.1	Do you hear about covid-19 vaccine?	Yes No I don't know	00 01 02
3.2	Do you know, being vaccinated against infectious diseases reduces the morbidity and mortality rates of disable people?	Yes No I don't know	00 01 02
3.3	Do you think vaccines are important for the health of disable people?	Yes No I don't know	00 01 02
3.4	Do you know about how the COVID-19 vaccine was developed?	Yes No I don't know	00 01 02
3.5	Do you know about the effectiveness of the COVID19 vaccine?	Yes No I don't know	00 01 02
3.6	Is it dangerous to use an overdose of COVID-19 vaccines?	Yes No I don't know	00 01 02
3.7	Does COVID-19 vaccination increase allergic reactions?	Yes No I don't know	00 01 02
3.8	Does vaccination increase autoimmune diseases?	Yes No I don't know	00 01 02
3.9	Will the COVID-19 vaccine be useful in controlling the COVID-19 pandemics?	Yes No I don't know	00 01 02

3.10	Do you know how to wear and take-off the facemask and follow health advisory according to international safety standards after vaccine?	Yes No I don't know	00 01 02
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Part IV: Attitude

QN	Question	Response/Answer	Code
4.1	Do you think that the government should take initiatives to vaccinate everyone?	Yes No May be	00 01 02
4.2	It is possible for vaccine to enhance protection against the covid-19 for person with disability?	Yes No May be	00 01 02
4.3	Do you believe, the benefits of vaccines usually outweigh the risks for person with disability?	Yes No May be	00 01 02

Part V: Acceptance

QN	Question	Response/Answer	Code
5.1	If a COVID-19 vaccine is available with an efficacy in any percentage, would you be a candidate for receiving all shots?	Yes No May be	00 01 02
5.2	If a COVID-19 vaccine is available with the desired efficacy, would you encourage your family and friends to get the vaccine?	Yes No May be	00 01 02
5.3	If covid-19 vaccine have a minimum side effects, would you get your shot for the vaccination?	Yes No May be	00 01 02

প্রশ্নপত্র

শিরোনাম: "প্রতিবন্ধী ব্যক্তিদের মধ্যে কোভিড-১৯ টিকাদানের জ্ঞান, মনোভাব এবং গ্রহণযোগ্যতা"।

সাক্ষাৎকারের সময়সূচী		
পর্ব-১: রোগীর সনাক্তকরণ এবং সামাজিক-জনসংখ্যা সংক্রান্ত প্রশ্ন।		
১.১	সাক্ষাৎকারের তারিখ	
১.২	ঠিকানা	
১.৩	মোবাইল নম্বর:	
১.৪	অনুমতি গ্রহণ	হ্যাঁ / না

অনুগ্রহ করে আপনার সঠিক উত্তর নির্বাচন করুন এবং বৃত্তের মাধ্যমে উত্তরটি চিহ্নিত করুন

ক্রমিক নং	প্রশ্ন	উত্তর	কোড
১.৫	বয়স		
১.৬	লিঙ্গ	পুরুষ মহিলা	০১ ০২
১.৭	বৈবাহিক অবস্থা	বিবাহিত অবিবাহিত তালাকপ্রাপ্ত বিধবা	০১ ০২ ০৩ ০৪
১.৮	বসবাসরত এলাকা	গ্রাম মফস্বল শহর	০১ ০২ ০৩
১.৯	শিক্ষাগত যোগ্যতা	প্রাতিষ্ঠানিক শিক্ষা নেই প্রাথমিক মাধ্যমিক উচ্চ মাধ্যমিক স্নাতক স্নাতকোত্তর	০১ ০২ ০৩ ০৪ ০৫ ০৬

১.১০	পেশা	কৃষক	০১
		রিকশাচালক	০২
		পোশাক শ্রমিক	০৩
		ড্রাইভার	০৪
		ব্যবসায়ী	০৫
		দিনমজুর	০৬
		শিক্ষক	০৭
		ছাত্র	০৮
		বেকার	০৯
		চাকরিজীবী	১০
		গৃহকর্মী	১১
		অন্যান্য(নির্দিষ্ট করুন).....	১২
১.১১	পরিবারের সদস্য সংখ্যা		
১.১২	উপার্জনকারী সদস্য সংখ্যা		
১.১৩	মাসিক আয়		

পর্ব-২: স্বাস্থ্য এবং অক্ষমতা সম্পর্কিত তথ্য

ক্রমিক নং	প্রশ্ন	উত্তর	কোড
২.১	প্রতিবন্ধীতার ধরন		
২.২	আপনি কতদিন ধরে প্রতিবন্ধীতার সম্মুখীন হচ্ছেন?		
২.৩	আপনার চলাচলের পদ্ধতি কি?	ছইল চেয়ার ক্রাচ হাটাহাটি অন্যান্য (নির্দিষ্ট করুন)	০১ ০২ ০৩ ০৪
২.৪	আপনার পাশাপাশি অন্য কোনো রোগ আছে?	ডায়াবেটিস মেলিটাস উচ্চ রক্তচাপ শ্বাসকষ্ট হৃদরোগ খিঁচুনি অন্যান্য (নির্দিষ্ট করুন).....	০১ ০২ ০৩ ০৪ ০৫ ০৬
২.৫	আপনার পূর্বে থেকে ফুসফুসের কোনো জটিলতা আছে?	হ্যাঁ না	০১ ০২
২.৬	আপনি কি কখনো কোভিড-১৯ এ আক্রান্ত হয়েছেন?	হ্যাঁ না	০১ ০২
২.৭	যদি হ্যাঁ হয়, তারিখ এবং চিকিৎসা উল্লেখ্য করুন	তারিখ..... চিকিৎসা.....	
২.৮	কোভিড-১৯ এর টিকা নেওয়া হয়েছে?	হ্যাঁ না	০১ ০২
২.৯	হ্যাঁ হলে, কয়টি ডোজ সম্পূর্ণ করেছেন?		
২.১০	১ম ডোজের তারিখ		
২.১১	২য় ডোজের তারিখ		
২.১২	বুস্টার ডোজের তারিখ		

পর্ব- ৩: জ্ঞান

ক্রমিক নং	প্রশ্ন	উত্তর	কোড
৩.১	আপনি কি কোভিড-১৯ টিকা সম্পর্কে জানেন?	হ্যাঁ না জানা নাই	০১ ০২ ০৩
৩.২	আপনি কি জানেন, সংক্রামক রোগের বিরুদ্ধে টিকা নেওয়ার ফলে প্রতিবন্ধী ব্যক্তিদের অসুস্থতা এবং মৃত্যুর হার কমে যায়?	হ্যাঁ না জানা নাই	০১ ০২ ০৩
৩.৩	আপনি কি মনে করেন আপনার স্বাস্থ্যের জন্য টিকা গুরুত্বপূর্ণ?	হ্যাঁ না জানা নাই	০১ ০২ ০৩
৩.৪	আপনি কি জানেন কিভাবে কোভিড-১৯এর টিকা তৈরি হয়েছে?	হ্যাঁ না জানা নাই	০১ ০২ ০৩
৩.৫	আপনি কি কোভিড-১৯ এর টিকা কার্যকারিতা সম্পর্কে জানেন?	হ্যাঁ না জানা নাই	০১ ০২ ০৩
৩.৬	কোভিড-১৯ এর টিকা অতিরিক্ত মাত্রা ব্যবহার করা কি বিপজ্জনক?	হ্যাঁ না জানা নাই	০১ ০২ ০৩
৩.৭	কোভিড-১৯এর টিকা কি এলার্জির প্রতিক্রিয়া বৃদ্ধি করে?	হ্যাঁ না জানা নাই	০১ ০২ ০৩
৩.৮	টিকা কি রোগ প্রতিরোধ ক্ষমতা বাড়ায়?	হ্যাঁ না জানা নাই	০১ ০২ ০৩
৩.৯	কোভিড-১৯ এর টিকা কি কোভিড-১৯এর মহামারী নিয়ন্ত্রণে কার্যকর হবে?	হ্যাঁ না জানা নাই	০১ ০২ ০৩
৩.১০	আপনি কি জানেন, কিভাবে ফেসমাস্ক পরতে ও খুলে ফেলতে হয় এবং টিকা গ্রহণের পরে আন্তর্জাতিক নিরাপত্তা মান অনুযায়ী স্বাস্থ্য পরামর্শ মেনে চলতে হয়?	হ্যাঁ না জানা নাই	০১ ০২ ০৩

পর্ব-৪: মনোভাব

ক্রমিক নং	প্রশ্ন	উত্তর	কোড
৪.১	আপনি কি মনে করেন যে সরকারের সবাইকে টিকা দেওয়ার উদ্যোগ নেওয়া উচিত?	হ্যাঁ না হতে পারে	০১ ০২ ০৩
৪.২	আপনি কি মনে করেন, প্রতিবন্ধী ব্যক্তির জন্য কোভিড-১৯ এর বিরুদ্ধে সুরক্ষা বাড়ানো টিকা দ্বারা সম্ভব?	হ্যাঁ না হতে পারে	০১ ০২ ০৩
৪.৩	আপনি কি বিশ্বাস করেন, টিকার সুবিধা সাধারণত প্রতিবন্ধী ব্যক্তির ঝুঁকির চেয়ে বেশি?	হ্যাঁ না হতে পারে	০১ ০২ ০৩

পর্ব-৫: গ্রহণযোগ্যতা

ক্রমিক নং	প্রশ্ন	উত্তর	কোড
৫.১	যদি কোভিড-১৯ এর টিকা যেকোন শতাংশে কার্যকারি হয়, আপনি কি সবগুলো ডোজ গ্রহণের জন্য প্রার্থী হবেন?	হ্যাঁ না হতে পারে	০১ ০২ ০৩
৫.২	যদি কোভিড-১৯ এর টিকা আকাঙ্ক্ষিত কার্যকারি সহ উপলব্ধ হয়, আপনি কি আপনার পরিবার এবং বন্ধুদের টিকা নিতে উৎসাহিত করবেন?	হ্যাঁ না হতে পারে	০১ ০২ ০৩
৫.৩	কোভিড-১৯ এর যেকোনো একটি টিকার ন্যূনতম পার্শ্বপ্রতিক্রিয়া থাকে, আপনি কি আপনার টিকা গ্রহণ করবেন?	হ্যাঁ না হতে পারে	০১ ০২ ০৩

APPENDICES-III



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

Ref:

Date:

CRP/BHPI/IRB/02/2022/561

23/02/2022

Md. Akter Hossain
4th Year B.Sc. in Physiotherapy
Session: 2016 – 2017
BHPI, CRP, Savar, Dhaka- 1343, Bangladesh

Subject: Approval of the research project proposal “**Knowledge, Attitude, and Acceptance of COVID-19 Vaccination among the Person with Disabilities**” by the ethics committee.

Dear Md. Akter Hossain,
Congratulations.

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

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

The purpose of this study is to evaluate Knowledge, Attitude and acceptance of COVID-19 vaccination among the person with disabilities. Since the study involves questionnaire that takes maximum 10-15 minutes and have no likelihood of any harm to the participants, the members of the Ethics committee approved the study to be conducted in the presented form at the meeting held at 09:00 AM on 12th October, 2021 at BHPI (30th IRB Meeting).

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

Best regards,

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

APPENDICES-IV

Permission letter

Date 07 March, 2022

To

The Head of Department of Physiotherapy
Centre for the Rehabilitation of the Paralyzed (CRP),
Chapain, Savar, Dhaka-1343.

Through: Head, Department of Physiotherapy, BHPI

Subject: Seeking permission for data collection of 4th year physiotherapy research project.

Respected Sir,

With due respect and humble submission to state that I am Md. Akter Hossain, student of 4th Professional B.Sc. in Physiotherapy at Bangladesh Health Professions Institute (BHPI). The ethical committee has approved my research project entitled on “**Knowledge, Attitude and Acceptance of COVID-19 Vaccination among the patient with disabilities**” under the supervision of Kazi Md. Amran Hossain Lecturer, Department of Physiotherapy, BHPI, CRP, Savar, Dhaka-1343, Bangladesh. My IRB number CRP/BHPI/IRB/02/2022/561. I want to collect data for my research project from the patients of department of Physiotherapy, CRP-Savar. So, I need permission for data collection from the Physiotherapy department of CRP-Savar. I would like to assure that anything of my study will not be harmful for the participants.

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

Yours obediently,

Md. Akter Hossain

Md. Akter Hossain

4th professional B.Sc. in Physiotherapy

Roll: 36, Session: 2016-17

Bangladesh Health Professions Institute (BHPI)

Forwarded
[Signature]
Kazi Md. Amran Hossain
Lecturer
Dept. of Physiotherapy
BHPI, CRP, Savar, Dhaka-1343

Approved
[Signature]
MOHAMMAD ANWAR HOSSAIN
Senior Consultant &
Head of Physiotherapy Dept
Associate Professor, BHPI
CRP Savar, Dhaka-1343

Recommended
[Signature]
14.03.22

Md. Shofiqul Islam
Associate Professor & Head
Department of Physiotherapy
Bangladesh Health Professions Institute (BHPI)
CRP, Chapain, Savar, Dhaka-1343