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# 1. Introduction

## 1.1. Background Information

**Coronavirus disease 2019 (COVID-19)** is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (China-WHO Joint Mission, 2020). The disease was first identified in 2019 in Wuhan, the capital of Hubei China, and has since spread globally, resulting in the 2019–20 coronavirus pandemic (Hui, D. S et al, 2020). The common symptoms of Covid-19 include fever, dry cough, and difficulty in breathing but muscle pain, sputum production, diarrhea, and sore throat are less common (Centre for Disease control and Prevention, 2020). While the majority of cases result in mild symptoms, some progress to pneumonia and multi-organ failure. In the month of March 2020, the rate of deaths per number of diagnosed cases is 4.4 percent; however, it ranges from 0.2 percent to 15 percent, according to age group and other health problems (Li et al, 2020). Until the preparation of this proposal (3 April 2020), more than 1,010,000 cases of COVID-19 have been reported in more than two hundred countries and territories, resulting in over 53,000 deaths but more than 211,000 people have recovered from this deadly virus (Worldometer, 2020).

Since the first reports of cases from Wuhan, a city in the Hubei Province of China, at the end of 2019, more than 80,000 COVID-19 cases have been reported in China, with the majority of those from Hubei and surrounding provinces. A joint World Health Organization (WHO)-China fact-finding mission estimated that the epidemic in China peaked between late January and early February 2020 (WHO Media Report, 2020), and the rate of new cases decreased substantially by early March. However, at present time cases have been reported in all continents, except for Antarctica, and have been rapidly rising in many countries of the world. The rapid increment in the cases of Covid-19 throughout the world including the United States, most countries in Western Europe (including the United Kingdom), and recently it has been reported in South-east Asia and this has forced the countries to announce sudden lockdown.

The virus is typically spread from one person to another via respiratory droplets produced during coughing (Centers for Disease control and Prevention, 2020). It may also be spread from touching contaminated surfaces and then touching one's face (Centers for Disease control and Prevention, 2020). The virus can live on surfaces up to 72 hours (National Institutes of Health, 2020). The time from exposure to onset of symptoms is generally between two and fourteen days, with an average of five days (Centers for Disease control and Prevention, 2020 Zhou et al, 2020). The standard method of diagnosis is by reverse transcription polymerase chain reaction (rRT-PCR) from a **nasopharyngeal swab**. The infection can also be diagnosed from a combination of symptoms, risk factors and a chest CT scan showing features of pneumonia (Jin YH et al, 2020).

The recommended measures to prevent infection include frequent hand washing, social distancing (maintaining physical distance from others), and keeping hands away from the

face (Perlman, 2020). The use of sanitized masks is recommended for suspect persons and their caregivers, but not for the general public, although simple cloth masks may be used by those who desire them (Tang et al, 2020; Li et al, 2020). There is no vaccine or specific antiviral treatment for COVID-19. It can be cured by the treatment of symptoms, supportive care, isolation, and experimental measures.

On February 20, 2020, a young man in the Lombardy region of Italy was admitted with an atypical pneumonia that later proved to be COVID-19. In the next 24 hours there were 36 more cases, none of whom had contact with the first patient or with anyone known to have COVID-19. This was the beginning of one of the largest and most serious clusters of COVID-19 in the world (Livingston, 2020). Despite aggressive effort, the disease continues to spread and the number of affected patients is rising in Italy and it has also become higher than that of China. Italy has recorded higher number of cases per day and new deaths per day (>900, highest daily figure in the outbreak so far) than China (BBC, 2020). Till present date (2020 March 29) the coronavirus COVID-19 has affected 199 countries and territories around the world with a total 664,590 cases, 30,890 deaths and 1,42,368 recovered cases (Worldometer, 2020).

The World Health Organization (WHO) declared the 2019–20 corona virus outbreaks a Public Health Emergency of International Concern (PHEIC) on 30 January 2020 and a pandemic on 11 March 2020. The evidences of local transmission of the disease have been found in many countries across all six WHO regions and most of the countries have announced an emergency alert throughout the countries.

## **1.2. Statement of Problem**

COVID-19 is a zoonotic virus. It is an animal virus that can be transmitted to humans. COVID-19 is not SARS and it is not influenza. It is a new virus with its own characteristics. The COVID-19 virus is unique among human coronaviruses which has capacity of high transmissibility, substantial fatal deaths in some high-risk groups, and ability to cause huge societal and economic disruption in the nation.

In 20 February 2020, a cumulative total of 75,465 COVID-19 cases were reported in China (China-WHO Joint Mission, 2020). Among 55,924 laboratory confirmed cases reported as of 20 February 2020, the median age is 51 years (range 2 days-100 years old) with the majority of cases (77.8%) aged between 30–69 years. Among reported cases, 51.1% are male, 77.0% are from Hubei and 21.6% are farmers or laborers by occupation (China-WHO Joint Mission, 2020). Individuals who are at highest risk for severe disease and death include people aged over 60 years and those with underlying conditions such as hypertension, diabetes, cardiovascular disease, chronic respiratory disease and cancer. Disease in children appears to be relatively rare and mild with approximately 2.4% of the total reported cases reported amongst individuals aged under 19 years. Mortality increases with age, with the highest mortality among people over 80 years of age.

A study done in Shenzhen City of China, among 2842 identified close contacts, 2842(100%) were traced and 2240 (72%) have completed medical observation. Among the close contacts, 88 (2.8%) were found to be infected with COVID-19(China-WHO Joint Mission, 2020).

As COVID-19 is a newly identified pathogen, there is no known pre-existing immunity in humans. Based on the epidemiologic characteristics and the scenario of increasing Covid-19 infected patients throughout the world so far, everyone is assumed to be susceptible, although there may be risk factors increasing susceptibility to infection.

Since the start of the COVID-19 outbreak, there have been extensive attempts to better understand the virus and the disease in China. It is remarkable how much knowledge about a new virus has been gained in such a short time. However, as with all new diseases, and only 7 weeks after this outbreak began, key knowledge gaps remain. The people are unknown about the source of infection, pathogenesis and virulence of the virus, transmissibility, risk factors for infection and disease progression, diagnostics, clinical management of severe and critically ill patients, and the effectiveness of prevention and control measures. The timely filling of these knowledge gaps is necessary to keep oneself safe and away from the disease and to enhance control strategies.

### **1.3.Rationale of Study**

The COVID-19 virus is unique among human coronaviruses since it has high transmissibility, uncontrollable fatal deaths in high-risk age groups, and has ability to cause huge social disharmony and economic loss. The present scenario of increasing Covid-19 patients and number of deaths per day shows that the global population seems to be susceptible to this virus. As the animal origin of the COVID-19 virus is unknown at present, the risk of reintroduction into previously infected areas is also high.

This study helps to assess the knowledge and attitudes of youths towards the Covid-19 disease. This study helps to find out the knowledge gaps among the people regarding the Covid-19 and the misconceptions and superstitious beliefs prevailing in the society about it.

This study will also provide descriptive data which may be useful for the concerned authority and planning institutions while preparing plans and programs to tackle the Covid-19 disease. Also, after this study people will be aware of the adopting healthy lifestyles and can manage and prevent complications.

### **1.4.Objectives**

#### **1.4.1. General objective**

- To assess the knowledge and attitude on Corona virus among young adults of Jhapa district.

#### **1.4.2. Specific objective**

- To identify the socio-demographic data of the community people.
- To assess the knowledge about covid-19.
- To assess the attitudes of youths about Covid-19.

- To assess the prevention measures followed by the people.

## 2. Literature Review

### **Viral Etiology**

Coronaviruses are important human and animal pathogens. At the end of 2019, a novel coronavirus was identified as the cause of a cluster of pneumonia cases in Wuhan, a city in the Hubei Province of China. It rapidly spread, resulting in an epidemic throughout China, followed by an increasing number of cases in other countries throughout the world. In February 2020, the World Health Organization designated the disease COVID-19, which stands for coronavirus disease 2019. The virus that causes COVID-19 is designated severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2); previously, it was referred to as 2019-nCoV.

According to recent research, Covid-19 is zoonotic, with Chinese horseshoe bats (*Rhinolophus sinicus*) being the most probable origin (Chan et al. 2020; Lu et al. 2020) and pangolins as the most likely intermediate host (Meng et al, 2020).

### **Epidemiologic Characteristics**

#### **Mode of Transmission:**

The person-to-person spread of SARS-CoV-2 is thought to occur mainly via respiratory droplets, resembling the spread of influenza. With droplet transmission, virus released in the respiratory secretions when a person with infection coughs, sneezes, or talks can infect another person if it makes direct contact with the mucous membranes. The infection can also occur if a person touches an infected surface and then touches his or her eyes, nose, or mouth. Droplets typically do not travel more than six feet (about two meters) and do not linger in the air however, SARS-CoV-2 remained viable in aerosols under experimental conditions for at least three hours (Van et al, 2020).

**Source of Transmission:** The study in Wuhan shows that the Covid-19 outbreak was associated with a seafood market that sold live animals, where most patients had worked or visited and which was subsequently closed for disinfection (WHO Report, 2020). However, as the outbreak progressed, person-to-person spread became the main mode of transmission. Although patients with symptomatic COVID-19 have been the main source of transmission, recent study suggests that asymptomatic patients and patients in their incubation period are also carriers of SARS-CoV-2 (Chan et al. 2020; Rothe et al. 2020). This epidemiologic feature of COVID-19 has made its control extremely challenging, as it is difficult to identify and quarantine these patients in time, which can result in an accumulation of SARS-CoV-2 in communities (The Chinese Preventive Medicine Association 2020)(Meng1 et al, 2020).

**Incubation period:** The incubation period for COVID-19 is thought to be within 14 days following exposure, with most cases occurring approximately four to five days after exposure (Li et al, 2020; Chan et al, 2020).

In a study of 1099 patients with confirmed symptomatic COVID-19, the median incubation period was four days (interquartile range two to seven days)( Guan et al, 2020).

**People at High Risk of Infection:** Individuals of any age can acquire Covid-19 infection, although adults of middle age and older are most commonly affected.

In study conducted with hospitalized patients with confirmed COVID-19, the median age ranged from 49 to 56 years (Huang et al, 2020; Wang et al, 2020). In a report from the Chinese Center for Disease Control and Prevention that included approximately 44,500 confirmed infections, 87 percent of patients were between 30 and 79 years old (Wu et al, 2020). Older age was also associated with increased mortality, with a case fatality rate of 8 and 15 percent among those aged 70 to 79 years and 80 years or older, respectively.

The findings from China shows that mortality was highest among older individuals, with 80 percent of deaths occurring in those aged  $\geq 65$  years.

### **Clinical manifestations**

**Initial presentation:** Pneumonia appears to be the most frequent serious manifestation of infection, characterized primarily by fever, cough, dyspnea, and bilateral infiltrates on chest imaging (Guan et al, 2020). There are no specific clinical features that can yet reliably distinguish COVID-19 from other viral respiratory infections.

In a study describing 138 patients with COVID-19 pneumonia in Wuhan, the most common clinical features at the onset of illness were (Wang et al, 2020):

- Fever in 99 percent
- Fatigue in 70 percent
- Dry cough in 59 percent
- Anorexia in 40 percent
- Myalgias in 35 percent
- Dyspnea in 31 percent
- Sputum production in 27 percent

### **Management:**

#### **Site of care**

**Home care:** Home management is appropriate for patients with mild infection who can be adequately isolated in the outpatient setting. Management of such patients should focus on prevention of transmission to others. Outpatients with COVID-19 should stay at home and try to separate themselves from other people and animals in the household. They should wear a facemask when in the same room (or vehicle) as other people and when presenting to health care settings. Disinfection of frequently touched surfaces is also important. The optimal duration of home isolation is uncertain.

**Hospital care:** Some patients with suspected or documented COVID-19 should be treated in the hospital. Management of such patients consists of ensuring appropriate infection control and supportive care. Patients with severe disease often need oxygenation support. Symptomatic patients should also be asked about recent travel or potential COVID-19 exposure in the prior 14 days to determine the need for evaluation for COVID-19.

### **3. Research Methodology**

#### **3.1 Study Method and Design**

Quantitative study method and descriptive cross sectional research design will be used to assess the knowledge and attitudes regarding Covid-19 among adults.

#### **3.2 Study Area**

The selected study area will be Damak municipality of Jhapa district. This area is selected because there was no any previous study on same topic done and also feasible for me.

#### **3.3 Study Population and Sampling Technique**

Both male and female adults living in Damak municipality will be the study population. The study sample will be selected by using random sampling technique.

#### **3.4 Target Population**

Age group between 21-49 years including both male and female will be target population.

#### **3.5 Data Collection Method**

Data will be collected by face to face interview with the selected respondents with the help of questionnaire.

#### **3.6 Data Analysis**

The data analysis will be planned as following:

- Descriptive analysis will be done in form of frequency, percentage and mean.
- Data will be presented in different frequency table, cross tabulation, chart.
- Analysis will be done using SPSS and MS Excel.

### **3.7 Risks and Assumption**

#### **Risks**

- Lack of fund available in time.
- Lack of time available for interviewer and respondent.

#### **Assumptions**

- Reliability is maintained by pretesting.
- Strong emphasis was given to make questionnaire and guidelines standard.
- Testing and retesting of the materials was done prior to the data collection.
- Cross checking was done in order to reduce the error.
- Clear and simple questions are prepared according to the educational level of the respondents.

## **4. Scope and limitations of Study**

### **4.1 Scope of the study:**

- The findings of the study might be helpful in identifying the knowledge and attitudes of Covid-19 among adult.
- The findings of the study might be helpful to future researchers.

### **4.2 Limitations of Study**

- The study is only based on young adulthood.
- The research is confined within the selected municipality of Jhapa District.
- Lack of fund may be the limitation for study.

## **5. Expected outputs**

- The socio-demographic data of the municipality will be assessed.
- The knowledge attitudes of youths about covid-19 will be assessed.
- The prevention measures followed by the people will be assessed.

## **6. Beneficiaries**

- The researcher will be benefitted from the study.

- The community people will be benefitted from the study.
- The health institutions and health workers will be benefitted from the study.
- Lastly, the policy makers will be benefitted from the study.

## 7. Calendar of Operation:

S.N	Activities	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1.	Site Selection								
2.	Literature Review								
3.	Questionnaire Preparation								
4.	Proposal Preparation								
5.	Proposal Presentation & Submission								
6.	Data Collection								
7.	Data analysis								
8.	Report writing								
9.	Article preparation and publication								

## 8. Budget summary:

S.N	Activities	Quantity	Unit rate (Rs)	Total amount (Rs)
1.	Site Selection	1	2,000	2,000
2.	Literature Review	1	5,000	5,000
3.	Questionnaire Preparation	1	2,000	2,000
4.	Proposal Preparation	1	2,000	2,000
5.	Proposal Presentation & Submission	1	1,000	1,000
6.	Data Collection		10,000	10,000
7.	Data analysis	1	10,000	10,000
8.	Report writing	1	2,000	2,000
9.	Article preparation and publication	1	5,000	5,000
13.	Sub Total			39,000
14.	Contingency 5%			1,950
	Total			40,950

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