YANGON UNIVERSITY OF ECONOMICS
DEPARTMENT OF APPLIED ECONOMICS
MASTER OF PUBLIC ADMINISTRATION PROGRAMME

A STUDY OF KNOWLEDGE, ATTITUDE AND PRACTICE
TOWARDS COVID19 PANDEMIC
(A CASE STUDY IN INSEIN TOWNSHIP, YANGON REGION)
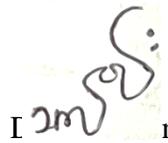
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A thesis submitted as a partial fulfilment towards the requirement of the degree of
Master of Public Administration (MPA)

Supervised by   **Submitted by**

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ABSTRACT

The purpose of the study is to investigate the level of Knowledge, Attitude and Practice of the people towards COVID-19 in Insein Township, Yangon. The study uses structured questionnaires to 388 respondents with the use of sample random sampling method. Myanmar implements lockdowns and other disease mitigation measures in an effort to reduce the spread of COVID-19. The efficacy of these mitigating measures is greatly dependent on cooperation and compliance among all elements of society. The Knowledge, Attitudes and Practices of individuals play a vital role in defining a society's readiness to embrace behavioural change initiatives. Regarding the Knowledge, participants have moderate level of awareness on prevention and overall mean score is 3.6. Concerning the Attitude, respondents have positive attitudes on COVID-19 prevention and overall mean value is 4.2. As for the Practice, respondents have moderate level of practice to prevent on COVID-19 and overall mean value is 3.5. It is advisable that a well-organized awareness program be implemented to raise knowledge about vital risk and prevention, as well as illness treatment through attractive activities.

ACKNOWLEDGEMENTS

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CHAPTER I
INTRODUCTION

1.1 Rationale of the Study

The SARS-CoV-2-related COVID-19 has been plaguing the world since late December 2019. On January 30, 2020, the WHO designated a public health emergency. Since then, this newly discovered, extremely contagious illness has spread to 223 nations and territories, sparking a worldwide pandemic that, as of June 30, 2021, has been documented in over 181.3 million cases and 3.9 million fatalities. While SARS-CoV-2 infects individuals of all ages, certain populations—such as the elderly, medical staff, and healthcare workers. It mostly impacts the respiratory system and may induce abrupt severe form respiratory distress; a few of these patients require entrance into intensive care units (ICU) for enhanced breathing assistance. Many patients experience some flu-like symptoms, such as a dry cough and fever, within five days after contracting the virus. COVID-19 is still difficult to contain in the majority of the world's countries, and it primarily affects the respiratory system. ICUs have become overburdened as a result of the rise in seriously ill COVID-19 and respiratory failure patients.

To better public health and preventative efforts, medical experts must collect local data to understand the potential risk factors and views of different communities as they face the pandemic. It will be critical to collect data on people's impressions of the pandemic, which is now mostly affecting the respiratory system. This information is needed to assess existing preventative measures, devise new, targeted strategies, and decrease the effect of COVID-19 on minority groups and communities at large. This allows it to be assessed whether risk perceptions and a lack of prevention are important difficulties, what modifications are required to adapt to the particular individuals and areas targeted by pandemic initiatives, and collect data to evaluate the efforts.

Evidence of local transmission of the illness has been detected in several countries in all six WHO regions, and the majority of these governments have issued an emergency alert. On July 29, 2022, there had been 572,239,451 laboratory-confirmed cases of COVID-19 submitted to the WHO, which included 6,390,401 fatalities. A total of 12,248,795,623 vaccine doses have been provided as of July 25, 2022 (WHO, 2022). Europe has the most confirmed COVID-19 cases,

followed by America, the Western Pacific, South-east Asia, the Eastern Mediterranean, and Africa, according to the WHO.

According to the WHO, there were 614,009 confirmed cases of COVID-19 in Myanmar from January 3, 2020, through July 29, 2022, with 19,434 deaths. A total of 66,954,796 vaccine doses had been administered as of June 17, 2022. The number of confirmed cases of COVID-19 in Myanmar, as shown on the Ministry of Health's official website, was 614,113. The number of recovered COVID-19 patients was mentioned as 592,910 on the Surveillance Dashboard (Myanmar) (MOH, 2022).

Several nations, including Myanmar, have implemented lockdowns and other disease mitigation measures, including state programs for the delivery of vaccination doses, in an effort to reduce the spread of COVID-19. The efficacy of these mitigating measures is greatly dependent on cooperation and compliance among all elements of society. The knowledge, attitudes, and practices (KAP) of individuals play a vital role in defining a society's readiness to embrace behavioral change initiatives.

All the residents of Insein Township reside in urban areas, and family size is 5 individuals living in each home, which is somewhat more than the Union average. This research will assess KAP of Insein population to investigate the community behavioral modification and what kind of intervention is needed.

1.2 Objectives of the Study

The objectives of the study are as follows;

(1) To identify the current situation of COVID-19 pandemic in Myanmar.

(2) To investigate the level of knowledge, Attitude and Practice of the people towards COVID 19 Pandemic in Insein Township, Yangon Region.

1.3 Method of Study

This study used the random sampling method by describing primary data and secondary data. Primary data is collected through the structured questionnaires. Question type is five-point Likert scale. The 388 households responded out of 394 households who are selected among the total number of households, 53,000, in 21 wards in Insein Township, Yangon. Secondary data is

collected from the Ministry of Health and Insein General Hospital, relevant research papers, scholarly articles, and reliable internet websites.

1.4   Scope and Limitations of the Study

This study finds out only level of knowledge, Attitude and Practice of community in Insein Township. Survey data collected during the period of 14-24 September 2022. The study relies on the data which is available during the period of 3 January 2020 to 30September 2022. The study is done only in the Insein township in Yangon. The data is collected from 388 households randomly selected who live in this township.

1.5   Organization of the Study

This research is divided into five chapters: Chapter (1) is an introduction that discusses the rationale for the study, its objectives, scope and limitations, and research method. The second chapter, Chapter (2), discusses the topic's literature review. The third chapter, Chapter (3), provides an overview of the current situation of the COVID-19 Pandemic in Myanmar as well as that in Insein Township in Yangon. The fourth chapter, Chapter (4), is a case study of the level of knowledge, attitude, and practice regarding the COVID 19 pandemic in Insein Township, Yangon. Finally, in Chapter (6), the findings and recommendations are discussed.

CHAPTER II
LITERATURE REVIEW

2.1   Background of and Evolvement of the COVID-19

This Chapter includes the literatures and background theories relevant to Knowledge, Attitudes and Practice about COVID-19. On November 17, 2019, the Hubei Province saw the first known incidence in China, which went undiscovered. Eight more cases were discovered in December, and specialists believe an unnamed virus is to blame. Ophthalmologist Dr. Li Wenliang ignored laws and exchanged safety precautions with other medical professionals, which let many people understand about COVID-19. China alerted WHO the next day. Li went dead from COVID-19 a month later (Lu et al., 2020).

Hui et al., (2020) said that the World Health Organization (WHO) was informed by the China Health Authority on December 31, 2019, that there were multiple pneumonia cases in Wuhan City, Hubei Province, central China, with no known cause.

COVID-19 is caused by SARS-CoV-2, a novel beta coronavirus that infects humans. The KAP survey provides useful information for enhancing population health generally in the face of public health crises like pandemics of recently developing infectious illnesses. Being knowledgeable about the illness and the virus's propagation is the greatest strategy to stop or slow down transmission. (WHO). Information is crucial as the survey's finding of a positive association between knowledge and practice illustrates. This means that in order to accomplish effective pandemic control, relevant information must be distributed with appropriate assistance in a language that is understandable by multiple broadcast channels.

2.2 Negative Effects of COVID-19

The new coronavirus (COVID-19) epidemic has had a significant impact on a variety of businesses and geographic areas, including health care, the economy, transportation, and other areas. In comparison to the same time in 2020, Myanmar's GDP growth rate dropped by 18.4% in

2021 (ADB, 2022), while many other nations saw major company failures and employment losses. The COVID-19 epidemic may have an impact on a company's performance in the stock market, the energy sector, and other areas at the business level (Sharma & Sha, 2020; Huayu Shen et al., 2020).

The COVID-19 epidemic is still having an impact on hospitals' and health systems' capacity to maintain financial stability and carry out important services for their patients and communities, according to a new analysis from Kaufman, Hall & Associates, LLC and the American Hospital Association (AHA). The AHA published the study today. It was authored by Kaufman, Hall & Associates, LLC. In 2021, the American Hospital Association. The COVID-19 epidemic and the ensuing recession have harmed the mental health of many individuals and made it more difficult for those who previously suffered from mental illness or a drug use issue to get treatment. When compared to the one in ten individuals who reported these symptoms from January to June 2019, the number of Americans who have had anxiety or depression symptoms throughout the epidemic has stayed relatively consistent at roughly four in ten. (Nirmita and others, 2021)

In both industrialized and emerging nations, it has contributed to an atmosphere of dread, worry, and tension. Advisories on the effects of the new coronavirus have been issued by WHO and all of the member countries. However, this illness causes a number of additional problems, such as social anxiety, panic attacks brought on by uncertainty, downturns, and significant mental stress, as a result of its excessive isolation and lockdown tactics.

Homeschooling has a significant negative impact on children's academic and social life in addition to parents' productivity. Online learning is developing in novel and unexpected ways. There is a great deal of trial and error and ambiguity around the online transfer of student assessments for everyone. Numerous examinations have been postponed. The fact that these disruptions might worsen inequality is crucial since they will not only have immediate consequences on the generations affected.

Young guys in Sweden are given various amounts of time to prepare for important tests, as Carlsson et al. (2012) analyze. The researchers can estimate a large influence of schooling on talents due to the conditional random events of these differences.

2.3   Review on Previous Studies

Knowledge, attitudes, and practices (KAP) about COVID-19 are an important part of figuring out if a society is ready to accept changes in behavior from health officials. KAP studies give us a starting point for figuring out what kind of intervention might be needed to change the way people think about the virus. Assessing the general public's awareness, perceptions, and practices (KAP) about COVID-19 would help address the lack of knowledge and help come up with better ways to prevent it and improve health. One thing we learned from the SARS outbreak is that how much panic and emotion there is depends on how much people know and how they feel. This could make it harder to stop the spread of the disease and make it so people can't get the medical attention they need.

Wong CL, et al. (2020) looked at the factors that affect KAP for COVID-19 in this population. Participants for this descriptive cross-sectional study were found with the help of South Asian community centres and organisations. 352 people filled out questionnaires to find out how much KAP they had toward COVID-19. The study shows that most people don't know very much. The people who took part had some wrong ideas about how to keep from getting COVID-19. They thought the disease was a mild risk, had positive feelings about how to stop it, and often did what was suggested to stop it, like staying away from people and wearing masks in public. Most of the men who took part had a high school diploma, while most of the women had a college degree (Wong et al., 2020).

Lee et al., (2021), studied at South Korea that both attitudes (like perceived risk and belief in effectiveness) and actions were directly affected by what people knew. The most important and influential practice factor for COVID-19 preventive behaviors was the belief that the behavior would work.

Bukata et al., (2001) showed that about more than a half of the participants knew what COVID-19 was. Knowledge of COVID-19 was linked to the level of education, the household wealth index, and employment. About one-third of the Jimma population got their information about COVID-19 from government-owned TV. Nearly a half of the people who answered the

survey had good feelings about the COVID-19 pandemic, and only a half of the people who took part in the study had good behavior toward COVID-19. This community-based cross-sectional study was conducted among 1,500 respondents who live in Jimma, the largest city in the southwestern Oromia Region, Ethiopia.

Alves et al., (2021) studied among 1996 participants aged 16 years old and above in Cape Verdean (Africa). Overall, most the questions about COVID-19 were answered correctly, most of the participants said they had stayed at home in the past few days said they hadn't gone to parties, funerals, or places with a lot of people, and they said their daily routines had changed because of COVID-19. Most of the participants, they preferred to get information about COVID-19 in Portuguese and trusted information that came from health professionals. Also, TV, radio, and newspapers were the best ways to get information about COVID-19 out to people. COVID-19 prevention and control practices were affected by what participants knew.

The degree of knowledge varied according to sociodemographic factors. Higher knowledge levels were shown by women and people with more education. (Lee et al., 2021). It reflected a high general knowledge and a positive attitude toward the adoption of preventive measures. Most participants reported staying at home recently; the second most participants reported not attending parties, funerals, or crowded places; and the other participants reported changes to their daily routines as a result of COVID-19. Most of the participants preferred to receive information about COVID-19 in Portuguese and trusted medical professionals to transmit accurate information. Additionally, newspapers, radio, and television were the most popular media for disseminating information about COVID-19. Practices for COVID-19 prevention and control were influenced by participant knowledge. (De Fátima Carvalho Alves et al., 2021)

The majority of participants had favorable opinions of Malaysia's ability to control the disease, the successful COVID-19 containment, and the Malaysian government's handling of the crisis. The majority of participants were also taking precautions during the week before the movement control order began, including avoiding crowds and practicing good hand hygiene. Face mask usage, however, was less typical. This study is one of the first to evaluate knowledge, attitudes, and behavior in Malaysia in response to the COVID-19 pandemic. The findings emphasize the need for specialized health education programs as well as reliable messaging from

health authorities and the government to raise knowledge, attitudes, and practices. (Azlan et al., 2020)

The study showed that the percentage of participants who had good knowledge overall was significantly correlated with education level. The majority of respondents believed COVID-19 would be eradicated. In the most recent days, the majority of respondents avoided crowded places. Males, the age range of 16 to 29 years, and education levels of secondary or lower were significantly associated with lower knowledge scores, according to multiple linear regression analysis. It found that people had good information, upbeat attitudes, and sensible practices for avoiding COVID-19 infection suggesting that community-based COVID-19 health education programs are beneficial and essential for eradicating the illness. (Rugarabamu et al., 2022)

In this study, the participants' levels of good knowledge (K), good attitude (A), and good practice (P) regarding COVID-19 were, respectively. The individuals' KAP was substantially correlated with their occupation and marital status. In a similar vein, people who had family members under quarantine were reported to exercise prevention well. All seven of Nepal's provinces were represented in this study at the height of the COVID-19 pandemic. Occupation and marital status were strongly correlated with practice level, attitude, and knowledge. Age and attitude levels were highly correlated. (Rajbanshi et al., 2022)

University students that participated in the online questionnaire survey that collected the study's data in Ghana. Structural equation modeling was used to examine the relationship between knowledge, attitude, and preventive measures about disease. The findings showed that the majority of students had a thorough understanding of disease, a positive attitude toward it, and occasionally used COVID-19 preventive and safety measures. Additionally, a favorable correlation between knowledge and attitudes about the disease was found. Additionally, a positive attitude was found for students' understanding of disease and prevention techniques, whereas a negative effect was found for attitudes toward disease and methods for preventing the spread of the disease. (Ampofo & Aidoo, 2022)

During telephone interviews in June 2020, a representative group of 1773 women between the ages of 15 and 49 participated in the study. Women with higher levels of education are not

always found to have improved knowledge, attitude, or practices of appropriate strategies for the prevention and control of COVID-19 in the DRC, according to the study's findings, which show no statistically significant difference in the influence of education level on women's KAP. The findings also suggest that education can influence COVID-19 burden reduction in both favorable and unfavorable ways. (Loleka & Ogawa, 2022)

The mean knowledge scores varied significantly according to designation, educational attainment, and COVID-19 instruction. Overall mean score is 53.7% (SD = 14.7), the respondents' degree of practice was not enough. The practice of resuscitating intubated patients and patients was lacking. Ventilation technique, the use of supraglottic devices, and intubation barriers all lacked adequate practice. The relationship between sufficient knowledge and ethical behavior was favorable. To increase their knowledge, foster a good attitude, and ensure to comply with disease resuscitation recommendations, on-going education and training programs are advised. (Mohd Kamil, Zambri, Azizah, Noor Azhar, & Ahmad, 2022)

CHAPTER III
COVID 19 PANDEMIC SITUATION IN MYANMAR

3.1   COVID-19 Situation in Myanmar

The new coronavirus 2019-nCov, commonly known as SARS-Cov-2, was declared by the World Health Organization's International Health Regulations (IHR) Emergency Committee as a hazard to all states on January 23, 2020. The committee found that "all nations should be prepared for containment, including active surveillance, early diagnosis, separation, and case treatment, contact tracing, and prevention of further transmission of 2019-nCoV infection, as well as extensive data exchange with WHO." The COVID-19 outbreak was labeled a global public health emergency by the WHO on January 30. On March 23, the first two COVID-19 cases were detected in Myanmar. On March 23, 2020, two Myanmar residents returning from other countries became the country's first two COVID-19 cases. By the beginning of August, Myanmar had only documented 360 confirmed COVID-19 cases and six deaths.

Nevertheless, the majority of additional daily cases reported has grown dramatically since mid-August. The root of this spike was an increase in locally transmitted cases, which climbed from five cases per day in mid-August to 1,137 cases per day in mid-October. As of October 21, there had been 39,696 confirmed infections and 972 fatalities. Almost all verified cases (99%) were caused by local transmission; the remaining 1% were in returnees from overseas trip to Myanmar. In every site, they have confirmed instances. 20 Yangon (31,137 cases) accounted for about four-fifths of the total count of confirmed cases as of October 21, 2020, followed by Rakhine (2,625), Bago (1,773), Mandalay (1,298), Ayeyarwaddy (753), and Mon (562). (562). Other areas have fewer than 400 verified cases. Men account for a greater number of confirmed cases in Myanmar (53%), with the majority of cases occurring between the ages of 20 and 50. To far, 506,842 tests have been done, representing roughly 0.9% of Myanmar's total population (54 million) (54 million).

From one laboratory in March to seven in August, the nation's testing capabilities has expanded. Yangon has three testing labs, and each of the following states has one: Nay Pyi Taw, Mandalay, Mon, and Shan. The government does not produce testing kits and must depend on

purchases and gifts from other countries. Following the pandemic in mid-August, the Ministry of Health and Sports (MoHS) expanded testing capacity in 27 district level hospitals throughout the nation and delivered 400,000 fast testing kits to all areas. 25,26 In October, Myanmar may run around 8,000 tests per day, up from 380 tests per day in March. 23,27,28 Meanwhile, in October, the frequency of positive tests in the preceding seven days was 15.1%.

A test positive rate of 5% is one requirement set out by the WHO for the COVID-19 epidemic to be deemed under control. The incidence of 15.1% in Myanmar shows that the disease is out of control and that the number of cases that have been reported is just a tiny part of the actual number of afflicted persons. Pandemic has affected the provision of other essential health services, including family planning, maternity care, HIV antiretroviral medication, and an expanded vaccination program. On March 13, 2020, a presidential order (45/2020) established a national level committee in Myanmar. The group is in charge of coordinating efforts between the governmental, business, and civil society sectors as well as the entire national response to COVID-19. It established a working group the same day to address the coronavirus's financial effects. It focuses on offering short-, medium-, and long-term goals to balance out the COVID-19's detrimental economic effects. The committee helped establish a COVID-19 fund that would provide low-interest loans to companies including garment manufacturers, hotels, the travel sector, and small and medium-sized enterprises (SMEs).

A presidential order (53/2020) established the coronavirus illness containment and emergency response committee in March. The committee is in charge of keeping an eye on travelers returning from abroad and those who have come into close contact with infected people, quarantining emigrants and contacts of infected people, providing medical care, support, and reassurance in facility quarantine sites, taking legal action against those disseminating false information about COVID-19, and informing the public of crucial information and legal requirements at the ward and village levels. The government established a committee on April 27 to coordinate efforts and work with ethnic group to stop, contain, and treat COVID-19. The committee was given the responsibility of sharing information with ethnic group concerning migrant workers who cross land borders, people who are the subject of COVID-19 investigations, patients receiving medical care, and contact tracing.

A comprehensive national plan for responding to COVID-19 from April 2020 to December 2021 is provided and Other Respiratory Disease, which was launched in April. The contingency

plan outlines reaction strategies for all stages, including getting ready, isolating the area, controlling the situation, and holding it. The government received a loan from the World Bank to pay for the revisions made to the contingency plan, which included constructing 338 ICU beds with ventilators and modernizing current ICU beds at state and regional hospitals. In April, China sent 30 ventilators to Myanmar. One day after the WHO issued a warning concerning inexplicable pneumonia cases in Wuhan, China, the Myanmar government-initiated surveillance at international airports using thermal infrared screening tools on January 5, 2020.

The Myanmar government forbade Chinese travelers from acquiring visas on arrival and halted all airlines between Yangon and China shortly at January 2020. The government has prevented commercial airplanes from landing since the beginning of March, granted e-visas and visas-on-arrival to visitors from all nations, and closed land borders to international tourists. The duration of these bans is from now until October 31. At all ports of entry as of October 20, the authorities was checking travel records and temperature readings. 51 All newly arriving nationals of Myanmar were subject to a 14-day facility-based quarantine order that was extended by the government to a 21-day period in April. The facility-based quarantine was shortened to 14 days in September.

In February, the government issued advice on personal hygiene. Additionally, the government promoted social distance, urged citizens to report COVID-19 symptoms to health facilities, and opened a national call center in early April to address COVID-19-related queries. The government has restricted gatherings of more than five people since February, closed educational institutions, movie theaters, national parks, museums, and places of worship until further notice, put some commercial passenger flights and bus services in Yangon and Mandalay on hold, and cut back on the number of railway routes. The government started easing certain prohibitions on large gatherings and restarting essential services, including as domestic transportation, dining establishments, and high schools, in April. However, a mid-August transmission epidemic forced the government to reinstate its prohibition on large gatherings, suspend schools, cancel domestic flights, restrict travel into and out of Yangon and Rakhine, and let only a small number of rail lines and district services to run.

For disobeying partial lockdown, stay-at-home, or curfew orders, at least 500 persons have been given jail terms ranging from one month to a year. On March 23, the Ministry of Health and Sports (MoHS) created a dashboard for tracking COVID-19 patients' interactions. Since then, it

has published daily situation reports at the national and local levels based on COVID-19 data. The government started creating facility quarantine sites in early March, and by October 5 there were 5,690 active sites around the nation.

Any of these facilities must quarantine anyone who have had direct interaction with confirmed COVID-19 cases or who are returning from an infected area. The government pays for the expenses associated with housing and medical care for suspicious patients in quarantine facilities. If returning visitors choose a hotel over a quarantine facility, they may be required to pay for their stay. The administration is putting WHO contact monitoring guidelines into practice. It has constructed 21 neighborhood fever clinics in Yangon since April to examine people for COVID-19 symptoms and refer them as necessary to hospitals or testing facilities. After a surge in cases in the middle of August, several fever clinics began collecting swab samples, which were subsequently sent to Yangon's National Health Laboratory for examination.

Since March, the government has installed GenXpert machines at 27 district-level hospitals, increasing testing capacity from one national laboratory to seven. The MoHS (Ministry of Health and Sports) is thinking about establishing a new lab in Lashio, Shan State, starting a mobile lab van program to transport samples from overcrowded laboratories to less congested laboratories across the nation, and buying COVID-19 diagnostic machines in order to expand nationwide testing. 23 Based on clinical standards, travel history, and contact tracing, the MoHS (Ministry of Health and Sports) makes decisions for individual testing. They only offered free evaluations to those who showed symptoms. Infectious patients are treated at public general hospitals.

They added a one-time bonus of MMK50,000 (about $39) to the normal pay of government healthcare employees in May. All permanent government workers, including healthcare professionals, received interest-free loans from the government on October 5. The government intended to train and hire medical personnel and volunteers to work in facility quarantine sites as part of the COVID-19 Economic Recovery Plan (CERP), which was unveiled on April 27. Additionally, the government intended to import health products necessary for COVID-19 treatment and prevention (such as masks, medications, ventilators, and ICU equipment), maintain hand washing locations in convenient places, establish mobile teams for mask distribution, and set up mobile testing teams.

Employees who registered with the Social Security Board and lost their jobs as a result of COVID-19 are entitled for 40% in unemployment benefits. The length of these employees' unemployment compensation has also been increased from 6 months to one year. For MMK400 billion (about US$309 million), the government created the COVID-19 fund at the Myanmar Economic Bank to support the textile, tourism, and SMEs sectors with low-interest loans. They extended the due dates for several sectors' periodic corporate income tax and commercial tax payments. Up to March 20, 2021, it does not charge to renew hotel and tourism licenses.

Even though the Myanmar government has made great efforts to resolve COVID-19, there are still a number of important gaps. The absence of sufficient labs in Myanmar is the primary reason behind the country's low testing rate. The MoHS only conducts testing in public health labs and a military hospital (Ministry of Health and Sports). Even though there were more locations for testing from May to August, as of October 1, only seven labs and district hospitals have the necessary equipment. Only two persons have the capacity for extensive testing. Because it does not produce testing kits, the government is dependent on overseas gifts and purchases to keep them in stock. Additionally, there is a shortage of trained laboratory technicians nationwide, especially in areas of conflict.

The government adopted a maximal containment approach in response to the pandemic, forcing potential COVID-19 patients to stay 21 days sequestered in government-run quarantine facilities. In these facilities, patients with little or no symptoms are kept apart. Until mid-August, when there were few verified cases, this method was effective. This approach resulted in a large pressure on quarantine facilities, healthcare personnel, volunteers, and government financial resources after the epidemic. Healthcare workers made up more than 10% of those with illnesses that were later confirmed during the outbreak. For Myanmar to implement the CERP, at least $2 billion will be needed (COVID-19 Economic Recovery Plan). Only US$76 million of the anticipated US$156 million cost of Myanmar's COVID-19 health sector contingency plan has been allocated. The COVID-19 response and recovery plan for education also needs to be funded. Myanmar intends to raise the required sums by combining state and Central Bank funding with outside aid. US$8,287 million have been given for the COVID-19 response in Myanmar as of October 18, 2020. The remaining monies are allocated for regional responses, with 67.9% set out for actions unique to Myanmar.

The bulk of the funds will be used to strengthen the nation's public health system and support its economic response to COVID-19. Other top concerns include maintaining food security, helping at-risk groups, developing healthcare systems, constructing educational facilities, and providing money for small and medium-sized businesses. To support the (COVID-19 Economic Recovery Plan) CERP, over a dozen government departments in Myanmar donated 10% of their anticipated 2019–20 budgets in May 2020. With the help of MMK50 billion from the National Revolving Fund and MMK50 billion from the Social Security Fund, the government created a COVID-19 fund of MMK100 billion (about US$77 million) as part of the COVID-19 Economic Recovery Plan (CERP).

To create public health emergency plans, the World Bank donated $50 million to Myanmar's healthcare system contingency plan. Additionally, $200 million was given to the CERP to help farmers and boost agricultural productivity. 104 The IMF approved $356 million in funding for the CERP in June 2020. A $250 million loan from the Asian Development Bank was granted by the Myanmar parliament in July to fulfill Myanmar's CERP budget (COVID-19 Economic Recovery Plan). 105 In the same month, Myanmar got US$43 million from the European Union to help support educational changes in response to the outbreak. Other multilateral donors that sent money to Myanmar were Gavi, the Vaccine Alliance, Promotion et Participation pour la Coopération Economique (Proparco), and the United Nations. JICA, a bilateral donor, gave Myanmar's small enterprises access to low-cost credit worth around US$49 million.

The Myanmar government has adopted a number of public health and socioeconomic policies since the epidemic started in early March, including partial lockdowns, travel restrictions, one-time financial and food help to select vulnerable groups, and soft loans to SMEs. The total number of confirmed cases climbed from 360 in early August to 39,696 in late October, despite these efforts, since the number of locally transmitted infections has considerably grown since mid-August. The government is expected to significantly increase its testing capacity in response to the unexpected rise in COVID-19 cases, produce testing kits domestically, and build new testing facilities. The contact tracing system in Myanmar will need to be improved in order to reach possibly unwell persons since the bulk of reported cases have occurred in unconscious people. The most vulnerable populations, including women, workers in the informal sector, immigrants, and victims of armed conflict, must be identified and safeguarded by the government.

As of October 21, 2022, daily reported cases declined to 300 per day on average from 340 the week before, while daily infections dropped to 142,000 per day on average from 155,000 the week before. The average daily hospital census in the previous week (through October 17) dropped from 2,200 per day the week before to 1,800 per day. Compared to the week before, the average number of reported COVID-19 fatalities each day in the most recent week stayed unchanged at one (Institute for Health Metrics and Evaluation, 2021).

On October 10, 2020, there were 2158 daily new infections, which is the most that year when compared to December 2019. The rate began to rise steadily on May 27, 2021, and on July 20, 2021, it reached 5860. 51 new infections were reported on January 3, 2022, and they increased once more from the end of the month to the first week of February.

More than 4 per million people die each day as a result of COVID-19, according to reports. Over 4 per million people die each day as a result of COVID-19. As of October 17, it was estimated that 75% of individuals in Myanmar had contracted the disease at least once.

3.2 COVID-19 Profile of Yangon

The following tables (3.1) shows that the number of COVID-19 test, positive cases, number of deaths among the total cases along with Death Rate monthly by year. In 2020, the number of positives cases confirmed increased gradually from March to August with most significant in April, and death rate is very low, but that number was immediately going up to 4 digits, from September to December. These numbers are most significant in October and November. The overall percentage of positive cases to the number of tests for 2020 is 18.83%, and Death Rate is 2.8. The total number of death of the patients is 2361 and see Table 3.1.

Table 3.1 COVID-19 tests by months at Yangon Region in 2020

2020	Tests	Positives Cases(Person)	Positive Rate(%)	Deaths (Person)	Death Rate(%)
Mar	N.A	10	0	N.A	0
Apr	N.A	105	0	4	3.8

May	N.A	80	0	1	1.3
Jun	N.A	96	0	N.A	0
July	N.A	54	0	N.A	0
Aug	N.A	97	0	N.A	0
Sep	41684	10025	24	307	3.1
October	142946	32298	22.6	868	2.7
November	138892	25774	18.6	641	2.5
December	123017	15561	12.6	540	3.5
Total	446539	84100	18.8	2,361	2.8

Source: Department of Public Health, 2022

In 2021, all the figure related with COVID-19 was higher than the previous year. The number of tests was 105703 with confirm positives cases, 4350 in single month, January. The number of death cases was 215 with Death Rate, 4.9. The rates were decreased gradually from February to May with most significant in February, and death rate is very low. But the figures were immediately going up again, from June to September. These numbers are most significant in July and August. The overall percentage of positive cases to the number of tests for 2021 is 6.67%, and Death Rate is 9.4. The total number death of the patients is 3801that was higher than the previous year and see Table 3.2.

Table 3.2 COVID-19 tests by months at Yangon Region in 2021

2021	Tests	Positives Cases(Person)	Positive Rate(%)	Deaths (Person)	Death Rate(%)
Jan	105703	4350	4.1	215	4.9
Feb	27736	412	1.5	11	2.7

Mar	24167	129	0.5	7	5.4
Apr	19002	158	0.8	3	1.9
May	26380	147	0.6	7	4.8
Jun	36500	2094	5.7	12	0.6
July	72633	23338	32.1	1780	7.6
Aug	50,990	6,303	12.4	1351	21.4
Sep	44,434	1382	3.1	263	19
October	61,738	942	1.5	117	12.4
November	69,160	690	1	36	5.2
December	69,929	635	0.91	20	3.1
Total	608372	40580	6.7	3801	9.4

Source: Department of Public Health, 2022

In 2022, all the figure related with COVID-19 was lower than the previous year, but higher than 2020. The total number of tests was 691979 with confirm positives cases, 25513 from January up to September in that year. In February, the total number of tests was 88530 with confirmed positive cases, 13706; the number of deaths was 287 with 2.1 Death Rate. So, it is most significant among months. In the following month, March, Deaths (119) with Death Rate (2.5) is found. Another significant number is also found in the September in which the total number of tests was 76,239 with confirmed positive cases, 3692; the number of deaths was 50 with 1.35Death Rate. See the table 3.3.

Table 3.3: COVID-19 tests by months at Yangon Region in 2022

2022	Tests	Positives Cases (Person)	Positive Rate(%)	Deaths (Person)	Death Rate(%)
Jan	70336	1697	2.4	8	0.5
Feb	88530	13706	15.5	287	2.1

Mar	84473	4729	5.6	119	2.5
Apr	80781	409	0.51	14	3.4
May	79601	121	0.15	1	0.8
Jun	63315	161	0.25	2	1.24
July	72585	296	0.41	0	0
Aug	76,119	702	0.92	9	1.28
Sep	76,239	3692	4.84	50	1.35
Total	691979	25513	0.04	490	0.02

Source: Department of Public Health, 2022

As per table 3.4 and Figure 3.2, COVID 19 positive rate based on specimen tested is highest that is (18.8 %) in 2020 and lowest (0.04 %) in 2022. COVID 19 death rate based on positive case is highest in 2021 (9.4 %) and lowest in 2022 (0.02 %).In 2022, COVID 19 positive rate based on specimen tested is higher but death rate based on positive case is lower than positive case. It seems likely that there was delta COVID 19 variant break out and shortage of health care staff and support and less immunization coverage increase the death tolls in 2021.

Table 3.4: Comparison of COVID 19 positive cases and death rates at Yangon Region

Year	Positive Rate Based on Tested (%)	Death Rate Based on Positive case(%)
2020	18.8	2.8
2021	6.7	9.4
2022	0.04	0.02

3.2   Demographic situation in Insein Township of Yangon

Insein Township is situated in the northern part of Yangon. The township is divided into 21 wards and is bordered to the north by Shwepyitha township, to the west by Hlaingthaya

township, to the east by Mingaladon township, and to the south by Mayangon township.The total population of the Insein Township is 305,283as of 29 March 2014 that represents 4.15% of the total population of Yangon Region. It was 7,360,703 persons in the same period. Of these, 146,158were males and 159,125were females, and the sex ratio is 92 males per 100 females. The township is 35.0 Km^{2}wide and population density (persons per Km2) was 8,717.0 persons. There were 4.5 persons living in each household in Insein Township. This is slightly higher than that of the Union average. See Table 3.5 and Table 3.6.

Table 3.5: Demographic factors of Insein Township

Sr No.	Description	
1	Males	146,158
2	Females	159,125
3	Sex ratio	92 males per 100 females
4	Area (Km2)	35
5	Population density (persons per Km2)	8,717.0 persons
6	Number of wards	21 wards
7	Mean household size	4.5 persons
8	Total population of the Insein Township	305,283

Source: 2014 Myanmar Population and Housing Census

The largest population was in Ywar Ma (West) ward with 30704, and the second largest was in Hpawt Kan with 23992 among 21 wards in the township. Zay Kone (West) in which the smallest population with 2101 was found. As shown in table 3.6.

Table 3.6: Demographic factors of Insein Township by wards

Sr	Ward/Village Tract	Population		
		Total	Male	Female
1	Kan Nar (West)(W)	9476	4582	4894
2	Kan Nar (Middle)(W)	15390	7320	8070

3	Kwet Thit(W)	2449	1131	1318
4	Pauk Taw(W)	4876	2141	2735
5	Zay Kone (West)(W)	2101	981	1120
6	Zay Kone (East)(W)	9327	4571	4756
7	Pein Hne Kone(W)	8233	3702	4531
8	Myo Thit ((Ka)/Kha)(W)	18491	8788	9703
9	Myo Thit (Ga)(W)	7869	3804	4065
10	Kyo Kone (West)(W)	12256	5872	6384
11	Kyo Kone (East)(W)	16270	7774	8496
12	Saw Bwar Gyi Kone(W)	20811	10042	10769
13	Nant Thar Kone(W)	12304	5587	6717
14	Taung Thu Kone(W)	19350	8733	10617
15	Ywar Ma (East)(W)	16376	7570	8806
16	Ywar Ma (Middle)(W)	10904	7190	3714
17	Ywar Ma (West)(W)	30704	14889	15815
18	Hpawt Kan(W)	23992	11197	12795
19	Sint Ngu(W)	22861	10621	12240
20	Aung San(W)	18555	8534	10021
21	Da Nyin Kone/Ta Nyin Kone (W)	22688	11129	11559
	Ward	**305283**	**146158**	**159125**
	Total	**305283**	**146158**	**159125**

Source: 2014 Myanmar Population and Housing Census

The following table, table 3.7, shows that current HR status of township office of the Public Health Department. There are 283 civil servants in it including 63 doctors, 220 nurses. It is very few numbers compared to that of HR in private clinics.

Table 3.7: Current Human Resource from Insein Township Public Health Department

Sr.	Position	Current employee status
1	Doctor	63
2	Nurse	220
	Total	283

Source: Department of Public Health, 2022

There are 424 private health centers including 5 Hospitals, 21 Specialist clinics, 152General Practitioner (GP), 152 Pharmacies. There are 155 doctors and 53 nurses .

in 5 hospitals, 92 doctors and 9 nurses in 21 Specialist clinics, and 375 doctors and 65 nurses in 152 General Practitioner (GP). See table 3.8.

Table 3.8: The situation of private health care in Insein Township

Type	Quantity	Doctor	Nurse
Hospital	5	155	53
Specialist clinic	21	92	9
Maternity room	1	2	1
Travel health	1	3	2
General Practitioner (GP)	152	375	65
Pharmacy	244	-	-
Total	424	624	130

Source: Department of Public Health, 2022

There are 3 main quarantine centers that they are Government Technical Institute (1), Government Technical Institute (2) and Government Technical Institute (3), and some COVID-19 suspect patients are stayed at Home and there are some other Swab Centers in the township. The following table shows the number of patients charged, who are found disease, and deaths by waves. From May-June 2020, 1996 out of 2708 charged in all quarantine centers were confirmed COVID-

19 positive, and 34 dead among them. From October to November 2020, 2701 out of 2814 charged in all quarantine centers were confirmed positive, and 30 dead among them. It also means only the ratio of death to confirmed positive is 1.1%. The figures are slowed from July-September 2021 and March-April 2022, and overall percentage of the ratio of death to confirmed positive is 1%. See table 3.9.

Table 3.9: Quarantine Centers and Death rate in Insein Township

Quarantine Center	Total			
	charged	Found Disease(Positive)	Death	Death Rate
May-June 2020	2708	1996	34	2%
October-November 2020	2814	2701	30	1%
July-September 2021	1020	553	7	1%
March-April 2022	307	126	2	2%
Total	6849	5376	73	1%

Source: Department of Public Health, 2022

The Vaccination completion status of Insein Township by age are shown in the following table (3.10). The number of people who have completed up to second dose of vaccinations the people over 18 years is highest, that is second highest in the people between 5-12 years. Total injection completion is 230738, so that it is very close to the target, 238660. The study also found that the additional injection completion, 51776 in the people who are more than 18 years old.

The drugs injected in Insein Township are Sinopharm/Sinovac manufactured in China. Covidshield produced in India/Sputnik Light produced in Russia/Myancopharm produced in Myanmar were injected.the health education has been conducted at a high pace, so far, about 748 health education sessions have been held so far. The Ministry of Information and Public Relations/ MRTV/ MWD has announced up to (66) times to date.

Table 3.10: Vaccination completion status of Insein Township

	>18yrs	12 – 18yrs	5-12yrs

	Target	Completion	Completion rate(%)	Target	Completion	Completion rate(%)	Target	Completion	Completion rate(%)
The number of people who have completed a up to second dose of vaccinations	238,660	151,030	63.30	6705	9291	1.4	11645	12389	1.1
External private investors	N.A	8949	-	N.A	N.A	-	N.A	N.A	-
Army + BPI, The total number of investors	N.A	3347	-	N.A	N.A	-	N.A	N.A	-
All non-injectors	N.A	59761	-	N.A	N.A	-	N.A	N.A	-
The number of people in prison	N.A	7651	-	N.A	N.A	-	N.A	N.A	-
Total injection completion	238,660	230,738	97.6	N.A	N.A		N.A	N.A	
	>18yrs			12 – 18yrs			5-12yrs		
	Target	Completion	Completion rate(%)	Target	Completion	Completion rate(%)	Target	Completion	Completion rate(%)
Additional injection completion	N.A	51776	-	N.A	1229	-	N.A	N.A	-

Source: Department of Public Health, 2022

CHAPTER IV

SURVEY ANALYSIS

4.1   Survey Profile

The survey was done during the period of 14-24 September, 2022. The constructed questionnaires were delivered to the 388 household who were randomly selected, and live in Insein Township, Yangon. Raw data collected were organized into IBM SPSS 26 and calculated to get the required output tables. Then, the output tables with data are edited necessarily, and put them into the Microsoft Excel 2019 to process into final tables and charts accordingly. In this chapter, demographic profile of the respondents, analysis and findings of the level of knowledge, Attitude, and Practice towards COVID-19 Pandemic is described with respect to the interpretation of the output tables.

4.2   Demographic profile

Table 4.1: Sociodemographic characteristics

Sociodemographic characteristics	Total (n=388)	
	No of Respondents	Percentage
Gender		
Male	176	45.4
Female	212	54.6
Marital status		
Single	124	32
Married	237	61.1
Separated	2	0.5
Widow/Widower	25	6.4

Size of family		
Less than 3 persons	41	10.6
3 persons	84	21.6
Above 4 persons	263	67.8
Presence of children		
No child	147	38
1 child	124	32
2 children	88	23
above 2 children	29	7
Age (year)		
<20 years	33	8.5
Between 21 to 30	111	28.6
Between 31 to 40	71	18.3
Between 41 to 50	82	21.1
Between 51 to 60	57	14.7
Above 61	34	8.8
Education level		
Non-formal Education	8	2
High school or less	310	79.9
Bachelor's degree	60	15.5
Postgrad degree	5	1.3
Certificate/Diploma	5	1.3
Employment status		
Student	8	2
Unemployment	34	8.8
Private sector	210	54.1
Health care profession	24	6.2
Own business	11	2.8
Government sector	7	1.8
Housewife	65	16.8

Other	29	7.5
Income(per month)		
Less than 30,000 MMK	11	2.8
Between 30,000 MMK and 120,000 MMK	50	12.9
Between 120,001 MMK and 300,000 MMK	195	50.3
Above 300,000 MMK	132	34

Source: survey data, 2022

Table 4.1 shows the gender, marital status, size of the family, presence of children, age, the level of education, the employment status, income (per month) for the respondents.

A total of 388 participants have completed the survey. The gender composition of the respondents is that 176 (45.4%) are males, and 212 (54.6%) are female among 388 (100%). So, the number of females is more than that of males, but the size of gender difference is small.

Majority of respondents were married, representing 61.1%. Size of family of the respondents is found that the number of family with less than 3 persons is 41 (10.6%), that with 3 persons is 84 (21.6%), that with above 4 persons is 263 (67.8%). So, the size of the family of most respondents is above 4 persons among 388 households.

Number of Children of each household are that 147 (38%) households do not have children, 124 (32%) households have only 1 child, 88 (23%) households have 2 children, 29 (7%) households have above 2 children,

While in terms of age groups, 8.5% of the total sample were less than 20 years, 28.6% of were between 21−30, 18.3% were between 31−40 and 21.1% were between 41−50, 14.7% were between 51−60 , 8.8% were above 61 respectively. The study found that most of the respondents, 310 (79.9%) out of 388 (100%), are undergraduates. Only 60 (15.5%) out of 388 (100%) are graduates, and a few are in Non-formal Education, 8 (2%), only 5 (1.3%) are post-graduate degree holders, and the rest, 5 (1.3%), got the Certificates or Diplomas. (54.01%) were working in the private sector, second highest were the housewife and the remaining were from government or health care sector, business owner, student and others. Unemployment is 8.8%. Half of respondents' income level is between 120,001 MMK and 300,000 MMK. Income level above 300,000 MMK is 34 %.

4.3   Findings of Knowledge, Attitude and Practice towards COVID-19

In this section, the study finds out what KAP towards Covid-19 in Insein Township, Yangon Region, are and how each of them is significant as well as which is the most significant among them.

4.3.1   COVID-19infection status of the respondents

Targeted respondents were assessed with question to know whether they have infected COVID 19. It is found that most of the respondents, 272 (70.1%), never had COVID-19, and 114 (29.4%), had been infected by it. Only a few, 2 (0.5%), had been re-infected by COVID-19. See table 4.2. It can be said that COVID 19 infection rate is less at Insein Township as per the survey.

Table 4.2: COVID-19 infection status of the respondents

	Frequency	Percent
Never had COVID 19	272	70.1
Had been infected by COVID 19	114	29.4
Had been re-infected by COVID 19	2	0.5
Total	388	100

Source: survey data, 2022

4.3.2   Health condition of the respondents

Most of the respondents say "No", 307 (79.1%), regarding to their current condition of heath that means they are feeling well, and they do not have any serious diseases or health problems during the questionnaire investigation. The others, 81 (20.9%) out of 388 (100%), say "Yes" that they mean they are getting some sorts of disease or they are not feeling well due to the interference of health problems during the questionnaire investigation.

Table 4.3: Health condition of the respondents

		Frequency	Percent
Health issue	Yes	81	20.9
Helath issue	No	307	79.1
Total		388	100

Source: survey data, 2022

4.3.3   Knowledge towards COVID-19

The following table (4.4) assess the source of COVID 19 information that the respondents received. The study found out that most of the respondents, 327 (84.3 %), get the required COVID-19 information from the Social media, the second most information source is television, 245 (63.1%). The third and fourth most information source is Government announcement, 215 (55.4%), and Radio, 140 (36.1). Some respondents answered that they are getting the COVID-19 related information from the Newspaper, 110 (2.8%), and, Neighborhood, 103 (26.5%). Only a few are getting the information through the seminars, 38 (0.8%). See the table 4.4. So, it can be said that most of the respondent who live in Insein Township usually stay online social media such as facebook, messenger or viber to exchange news about COVID-19. They also usually watch television programs for their entertainments meanwhile knowing updated information about COVID-19 related information through the short announcements in the intervals when they watching the TV programs.

Table 4.4: Sources of getting COVID-19information

	Frequency	Percent
Seminar	38	9.8
Newspaper	110	28.4
Television	245	63.1
Radio	140	36.1
Government announcement	215	55.4

	Frequency	Percent
Social media	327	84.3
Neighborhood	103	26.5

As per table (4.5), it can obviously see knowledge of the respondents that related to the four most COVID-19 infectious and deadliest countries. Almost two third of the respondents, 260 (67%), answered "yes" that they know the most COVID 19 infectious and deadliest countries. Only 128 (33%) out of 388 (100%) answered "No. It shows that almost two third of the respondents has interest on the news related to other countries. It is agreed with mean value (3.3) at table (4.6) as not all respondents know the information correctly.

Table 4.5: Knowing the four most COVID-19infectious and deadliest countries

	Frequency	Percent
Yes	260	67
No	128	33
Total	388	100

The respondents' knowledge of COVID-19 virus transmission, symptoms and prevention examined using 5-pointed Likert questions. The agree replies for positive things received a high score, while the disagree responses for the same items received a lower The overall mean score for knowledge questions was 3.6(SD=1.03).

According to table (4.6), among the study population, knowledge towards 388 numbers of respondents shows that they know the COVID-19 virus is spreading via the air by airborne droplets of infected person sneezing or coughing of infected patients and know to wear face mask in public area. The mean score was 4.6. standard deviation was 0.6. It shows that respondents have the knowledge of means of virus transmission and how to prevent it.

Most of the participants know that early treatment can help to better from infection. The mean score was 4.6. standard deviation was 0.6. It shows that participants has the awareness to visit doctors early to get proper treatment.

Study population also has knowledge of means of transmission of COVID-19 virus that touching an object or surface with the virus on it, then touching your mouth, nose, eyes with the unwashed hand would result in infection by COVID-19 virus and they have awareness on using alcohol-based hand sanitizers (60%) and wash hands frequently with soap can prevent COVID-19 infection. The mean score was 4.5. standard deviation was 0.7. It shows that respondents has the knowledge of the way virus can transmit and know that personal hygiene can reduce or prevent the virus.

Most of the participants agree the clinical symptoms of COVID-19 that patient have temperature, tiredness, dry cough, difficult to breath and body aches and they know that using COVID-19 test kit can help to show whether patient was infected with COVID-19. The mean score was 4.5. standard deviation was 0.7.

Regarding the knowledge that elderly with COVID-19 will develop to severe cases with underlying disease are more likely to get infected with severe illness. The mean score received was 4.5 and standard deviation was 0.9. It shows that participants know more care will be needed for elderly as they are prone to highest risk of severe illness if they are infected.

Participants mostly know the COVID-19 symptoms appear within 2 to 14 days. The mean score received was 4.5 and standard deviation was 0.7. With that knowledge, participants can stay away from family to be as home quarantine for about two weeks and take necessary precautions not to spread the virus within the family if they are suspected to have been infected.

Most of the study population have knowledge that COVID-19 vaccination can prevent or reduce the occurrence of COVID-19 disease. The mean score was 4.2. standard deviation was 0.8. It means that they have awareness of benefit of immunization.

Participants' mean score was 3.8 and standard deviation was 1.1 regarding knowledge question on vitamin supplements can cure COVID-19 without taking any COVID 19 preventive measure. The mean score was less than 4 and it seems that they do not have enough knowledge on that.

Mean score received for questions regarding whether participant heard about COVID19 disease and which information source they have used mostly to collect information was 3.7 and standard deviation was 1.3. According to mean score they still needed to receive the information timely and the source they mostly used are social media and government announcement and Television. So awareness program will need to go through these channels to provide the timely information.

Participants did not know well whether taking traditional medicine, herbs in daily meals can cure or prevent COVID-19. The mean score received was 3.6 and standard deviation was 1.2. It means that some natural herbs and traditional medicine may support human resistance but there is no prove for that, so mean score is lower than 4.

The mean score received was 3.3 and standard deviation was 1.5 for question regarding whether participants have knowledge on other countries about the spread of COIVD 19. Almost two third of participants answers are correct for the question of four most COVID 19 infectious and deadliest countries are America, India, French and Brazil.

The respondents are not clear about the question of whether running nose and sneezing are found less in patients with COVID-19. The mean score received was 3.2 and standard deviation was 1.4. It means that some COVID symptoms are similar with common cold.

The respondents are confusing about the question of whether eating the wild animals without cooking would result in COVID-19 infection. The mean score received was 3.0 and standard deviation was 1.3. It means that there is no proper proof of COVID-19 infection by eating raw meat.

Participants also not aware that COVID-19 cannot transmit to others if he has not appear any symptoms so no need to avoid crowded place or limit physical contact such as social distancing. The mean score received was 2.0 and standard deviation was 1.3. It needs to take preventive measures like wearing masks in public area as we cannot guess who will be the person with COVID-19.

Participants also not aware that taking medicine without doctor's prescription and self-medication can cure COVID-19. The mean score received was 1.9 and standard deviation was 1.2. World Health Organization does not recommend self-medication with any medicines, including antibiotics, as a prevention or cure for COVID-19.

Table 4.6: Knowledge towards COVID-19

Sr No.	Knowledge items	Mean	Std. Deviation	Meaning

1	Knowing as COVID-19 virus is spreading via the air by airborne droplets of infected person and know to wear face mask in public area.	4.6	0.6	**Good**
2	Knowing that early treatment can help better from infection.	4.6	0.6	**Good**
3	Knowing as washing hands very often with soap or use alcohol-based hand sanitizers (60%) can prevent COVID-19 infection whenever possible.	4.5	0.7	**Good**
4	Knowing to use COVID-19 test kit. when suffering temperature, tiredness, dry cough, difficult to breath and body aches	4.5	0.7	**Good**
5	Knowing that not all persons with COVID-19 will develop to severe cases. Only those who are elderly with underlying disease are more likely to get infected with severe symptoms.	4.5	0.9	**Good**
6	Knowing as common COVID-19 symptoms appear within 2 to 14 days .	4.5	0.7	**Good**
7	Knowledge on COVID-19 vaccination can prevent/reduce the occurrence of COVID-19 disease.	4.2	0.8	**Good**
8	Knowing Vitamin supplements can cure COVID-19 without taking any preventive measure.	3.8	1.1	**Poor**

9	Have you heard about COVID19? Please tick the information source that you mostly used COVID 19 Information?	3.7	1.3	**Poor**
10	Knowing that taking traditional medicine, herbs in daily meals can cure/prevent COVID-19.	3.6	1.2	**Poor**
11	The four most COVID 19 infectious and deadliest countries are America, India, French and Brazil.	3.3	1.5	**Poor**
12	Knowing that running nose and sneezing are found less in patients with COVID-19.	3.2	1.4	**Poor**
13	Knowing that eating the wild animals without cooking would result in COVID-19 infection.	3	1.3	**Poor**
14	Knowing that COVID-19 cannot transmit to others if he has not appear any symptoms so no need to avoid crowded place	2	1.3	**Poor**
15	Knowing that taking medicine without doctor's prescription and self-medication can cure COVID-19.	1.9	1.2	**Poor**
	Overall Mean	3.6	1.03	

4.3.3 Attitude towards COVID-19

Attitude towards COVID-19 virus transmission, symptoms and prevention of the respondents was assessed with 5-pointed Likert items. Within a range of score 1 to 5, the higher score indicates positive perception on COVID-19 virus transmission, symptoms and prevention of the respondents. Higher score was given for positive attitudes and lower score was given for negative attitudes.

The score less than '3' represents on negative attitude while more than '3' indicates the positive perception. The overall mean score for attitudinal items was obtained as 4.2 (SD=0.9).

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Table (4.7) shows mean score in attitude of respondents. Regarding attitude towards COVID-19 virus transmission, symptoms and prevention of the respondents, 4 statements mean score were higher and tow other statements mean score is less than score of '4'. Mean score greater than 4 indicate most of the respondents strongly agree on each statement respectively.

As a result, majority of the respondents had positive attitudes towards COVID-19 virus transmission, symptoms and prevention. The statement of "Attitude on wearing face masks in public area and washing hands frequently with soap or use alcohol-based hand sanitizers (60%) can prevent COVID-19 infection?" is responded in highest mean score among these statements. it shows most of the participants agree with prevention of COVID-19 virus transmission by wearing face masks in public area and washing hands frequently with soap or use alcohol-based hand sanitizers (60%) can prevent COVID-19 infection.

Also the highest positive attitudes that is the same score (4.5) is avoiding crowded and narrow spaces and avoiding chatting at close distance can prevent or reduce the occurrence of COVID-19 disease. It shows most of the participants agree with prevention of COVID-19 virus transmission by not staying together at closed or narrow spaces and chatting at least 6 feet distance.

The other score that above 4 is attitude on staying at home can help to mitigate the spread of the virus. The mean score is (4.4) and standard deviation is (0.9). They agree to stay home to reduce the spread of virus.

Respondents have positive attitude on immunization program. The mean score is (4.2) and standard deviation is (0.9). Most of the participants agree to prevent or reduce the occurrence of COVID-19 disease by taking COVID-19 vaccination.

Mean score less than 4 indicate most of the respondents are neutral or disagree on the statement respectively. The mean score is (3.7) and standard deviation is (1.2). There is negative attitude on keeping COVID-19 test kit and apply at home when COVID-19 suspicious symptom occurs. It could be that they are not used to or skillful in applying the test kit. As per the socio demographic characteristic table, only 24 respondents (6.2%) represent health care profession. Others are not from health care sector.

Respondents have negative attitude on preparing to live with COVID-19 as a new normal life is good? The mean score is (3.7) and standard deviation is (1.2). It means that they do not want to wear mask all the time at public area, do social distancing.

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Table 4.7: Attitude towards COVID-19

Sr No	Attitude Items	Mean	Std. Deviation	Meaning
1	Attitude on wearing face masks and washing hands frequently with soap or use alcohol-based hand sanitizers (60%) can prevent COVID-19 infection?	4.5	0.7	**Good**
2	Attitude on avoiding crowded and narrow spaces and avoiding chatting at close distance can prevent/reduce the occurrence of COVID-19 disease?	4.5	0.8	**Good**
3	Attitude on staying at home helps to mitigate the spread of the virus?	4.4	0.9	**Good**
4	Attitude on COVID-19 vaccination can prevent/reduce the occurrence of COVID-19 disease?	4.2	0.9	**Good**
5	Attitude on it is good practice to keep COVID-19 test kit and apply at home when COVID-19 suspicious symptom occurs?	3.7	1.2	**Poor**
6	Attitude on preparing to live with COVID-19 as a new normal life is good?	3.7	1.3	**Poor**
	Overall Mean	4.2	0.9	

Source: survey data, 2022

4.3.4 Practice towards COVID-19

There are 9 practices questions related to prevention. The following table shows the practices of study population whether they have practice on wearing face masks in public area, frequent hand washing with soap after in contact with frequent touched surfaces, wash hand before and after touching eyes, nose and mouth and have vaccinated and have avoided crowed area and have practice of using test kit, oximeter when feeling sick.

Mean score less than '3' represents less practice while greater than '3' indicates the better practice. The overall mean score for practice items was obtained as 3.5 (SD=1.3) that is less than knowledge overall mean score (3.6) and attitude overall mean score that is (4.2).

Participants have agreed the question on practice of participants on wearing face mask in public area as the mean score is (4.5) and SD is (1). It means that they apply the knowledge to prevent the disease.

Participants have practice to use disposable mask and dispose correctly after using it. The mean score is (4.5) and standard deviation is (0.9).

Mean score on frequent hand washing with soap after in contact with frequent touched surfaces and wash hand before and after touching eyes, nose and mouth mean score is above 4. It means that respondents agree on those preventive measures. The mean score is (4.1) and standard deviation is (01.2).

Isolation period of COVID-19 is 14 days in general that the mean score is (3.7) and standard deviation is (1.5). As per mean score, participants has less practice on isolation. According to Centers for Disease Control and Prevention, isolation days are different depend on symptoms.

Mean score for study population have been taken vaccination for COVID-19 is less than the knowledge and attitude mean score (3.6) and (1.5). It could be that participants may have missed the opportunities given from Township Health Department vaccination program and could not afford the vaccination cost charged at private clinic as participants have high knowledge and attitude on taking vaccination. When review the income level, 66% of respondents' income level is below 300,000 MMK that represent government vaccination program will only be possible for that income level group.

The mean score for avoiding crowded and narrow spaces and avoid chatting at close distance and follow the 6 feet distance rule and limit physical contact, (for example, handshake policy, social distancing) are (3.3) and (3.2) and standard deviation is (1.5) and (1.8) that is lower

than other prevention measures such as wearing face mask in public area and frequent hand washing with soap. It means that targeted respondents could not follow all the COVID 19 prevention policies.

Participants have less practice using cloth mask and wash correctly after using it as the mean score is (2.5) and SD is (1.6). They are using disposable mask.

The lowest mean score of practice on using COVID-19 related materials when COVID-19 suspicious symptom occurs (Oximeter, Thermometer, Oxygen concentrator, COVID-19 test kit) is (2.3) (1.0).

Table 4.8 Practice towards COVID-19

Sr No.	Practice Items	Mean	Std. Deviation	Meaning
1	Wear face mask in public area?	4.5	1	**Good**
2	Have practice disposable mask and dispose correctly after using it?	4.5	0.9	**Good**
3	Frequent using hand washing with soap after in contact with frequent touched surfaces, wash hand before and after touching eyes, nose and mouth?	4.1	1.2	**Good**
4	Isolation period of COVID-19 is 14 days in general?	3.7	1.5	**Poor**
5	Have been vaccinated for COVID-19?	3.6	1.5	**Poor**
6	Avoid crowded and narrow spaces and avoid chatting at close distance and Follow the 6 feet distance rule?	3.3	1.5	**Poor**
7	Limit physical contact, (for e.g. handshake policy)?	3.2	1.8	**Poor**
8	Practice using cloth mask and wash correctly after using it?	2.5	1.6	**Poor**
9	Practice on using COVID-19 related materials when COVID-19 suspicious symptom occurs (Oximeter, Thermometer, Oxygen concentrator, COVID-19 test kit)?	2.3	1	**Poor**
	Overall Mean	3.5	1.3	

Source: survey data, 2022

Correlation of the Independent Variables

Table 4.9 : Correlation of the Independent Variables

			Total Knowledge	Total Attitude	Total Practice
Spearman's rho	Total Knowledge	Correlation Coefficient	1.000	.526**	.307**
		Sig. (2-tailed)		0.000	0.000
		N	388	388	388
	Total Attitude	Correlation Coefficient	.526**	1.000	.432**
		Sig. (2-tailed)	0.000		0.000
		N	388	388	388
	Total Practice	Correlation Coefficient	.307**	.432**	1.000
		Sig. (2-tailed)	0.000	0.000	
		N	388	388	388

**. Correlation is significant at the 0.01 level (2-tailed).

4.3.6. Perceived Barriers to respondents to fully protecting themselves from COVID- 19

The following table assessed the respondents whether they have barriers to fully protecting themselves from COVID 19. The respondents were assessed with 5-pointed Likert scales. From score 1 to 5, (Always) represents highest barriers of receiving COVID-19 virus information and prevention materials and the lowest score (Never) expresses no barrier.

The respondents have a few experiences of shortage or unavailability of antiseptic wash products such as hand washing soap, Hand Sanitizer, as well as preventive items such as Mask, Gloves, etc. because the finding shows that the mean score for each are less than (3). Most of the respondents answered that they received COVID-19 related information often (3.7, 1.5). See the table 4.10. below.

The study found out that most of the respondents received COVID 19 related information is often that is highest mean value (3.7) with Standard Deviation (1.5). When assessing the main

information source of participants for COIVD 19 information, they received from social media, TV and government announcement are the highest percentage.

Table 4.10: Barriers to respondents to fully protecting themselves from COVID 19

Sr No.	Barrier Items	Mean	Std. Deviation	Meaning
1	Receive COVID 19 related information sufficient?	3.7	1.5	**Poor**
2	Have had experience of unavailability of these items((hand washing soap, Hand Sanitizer, Mask, Gloves) in some areas?	2.3	1.4	**Good**
3	Have had experience of shortage of Gloves?	1.6	0.9	**Good**
4	Have had experience of shortage of Hand Sanitizer?	1.4	0.7	**Good**
5	Have had experience of shortage of Mask?	1.4	0.7	**Good**
6	Have had experience of shortage of hand washing soap?	1.3	0.7	**Good**
	Overall Mean	1.9	0.9	

Source: Survey data (2022)

CHAPTER V
CONCLUSION

The study investigated the level of knowledge, attitude and practice towards COVID 19 Pandemic in Insein Township, Yangon Region. The study population is 388 households at 21 wards in Insein Township using sample random sampling method. A survey containing structured questions to investigate the level of knowledge, attitude and practices towards COVID 19 Pandemic related to prevention, symptoms and treatment and descriptive method was used in this study.

5.1   Findings

Related to the sociodemographic characteristics of the participants, female 212 (54.6%) are a bit higher than male 176 (45.4%). While in terms of age groups, 8.5% of the respondents were less than 20 years, 28.6% of the respondents were between 21−30. The study found that most of the respondents, 310 (79.9%) out of 388 (100%), are undergraduates. Only 60 (15.5%) out of 388 (100%) are graduates, and a few are in Non-formal Education, 8 (2%), only 5 (1.3%) are post-graduate degree holders, and the rest, 5 (1.3%), got the Certificates or Diplomas. (54.01%) of respondents were working in the private sector, second highest were the housewife and the remaining were from government or health care sector, business owner, student and others. Unemployment is 8.8%. Half of respondents' income level is between 120,001 MMK and 300,000 MMK. Income level above 300,000 MMK is 34 %.

The study found that most of the respondents get the required COVID-19 information from the Social media, the second most information source is television. They also received information from the Neighborhood. Some respondents answered that they are getting the COVID-19 related information from the Newspaper and Government announcement. Only a few are getting the information through the seminars and radio. Most of the respondents answered "yes" that they know the most COVID 19 infectious and deadliest countries such as United State of America, India, French, and Brazil. Only a few answered "No".

Overall score of awareness of respondents is (3.6) and standard deviation is (1.03). The study also found that moderate level of participants aware of COVID-19 virus transmission

through the respiratory droplets of infected individuals. The mean score with its standard deviation is 4.6 (0.6). They also have enough prevention knowledge of hand washing very often with soap or using alcohol-based hand sanitizers (60%) very often to remove the virus. The mean score with its standard deviation is 4.5 (0.7). Participant have the awareness to use COVID-19 test kit when suffering temperature, tiredness, dry cough, difficult in breathing and body pains. The mean score with its standard deviation is 4.5 (0.7). Respondents have knowledge to take COVID-19 vaccination to prevent or reduce the occurrence of COVID-19 disease. The mean score with its standard deviation is 4.2 (0.8).

The respondents have less knowledge that the persons with COVID-19 cannot be transmitted to others if there is no symptoms and no need to avoid crowded place or limit physical contact such as social distancing. The mean score with its standard deviation is (2) and (1.3).

Overall score of the attitude towards COVID-19 of the respondents are higher than the that of knowledge as it is 4.2 (0.9) that means that they have positive attitudes on prevention of COVID-19. Attitude on wearing face masks and washing hands very often with soap or use alcohol-based hand sanitizers (60%) can prevent the disease. The mean score with its standard deviation is 4.5 (0.7). Attitude on avoiding crowded and narrow spaces and avoiding chatting at close distance can prevent/reduce the occurrence of COVID-19 disease is second highest. The mean score with its standard deviation is 4.5 (0.8). They have positive attitude on taking COVID-19 vaccination to prevent the occurrence of COVID-19 disease. The mean score with its standard deviation is 4.2 (0.9).

The study found that the overall mean scores is (3.5) with the standard deviation is (1.3) for practice towards COVID-19 and it is lowest among the other variables such as knowledge and attitude. Practice of wearing face mask in public area is the highest mean score (4.5) and standard deviation (1). Respondents have less practice on compliance with social distancing. mean scores is (3.3) with the standard deviation is (1.5). The lowest score is found in practicing on using COVID-19 related materials when COVID-19 suspicious symptom occurs (Oximeter, Thermometer, Oxygen concentrator, COVID-19 test kit and the second lowest score is in practicing using cloth mask and wash correctly after using it.

5.2   Recommendations

Because of the findings, the study concluded that attitudes concerning COVID-19 are more significant than the other two, knowledge and practice. As a result, relevant institutions, particularly public authorities, should prioritize awareness initiatives to promote understanding and practice of COVID-19 above attitudes, because attitudes alone cannot protect individuals against disease transmission. It must accompany them with information, attitude, and practice regarding the condition. It is advisable that a well-organized awareness program be implemented to raise knowledge about vital risk and prevention, as well as illness treatment through attractive activities., as well as illness treatment through attractive activities. This may be accomplished by advised techniques that focus on grabbing this sector of the communities' attention in the public often visited areas such as shopping malls and grocery shops.

The role of the media, physicians, government and non-governmental organizations, and religious groups in raising knowledge about the various components of spread, prevention, and treatment is critical. One of the finest approaches for combating pandemic spread should be to raise awareness in novel ways. Presentations on TV, social media, and live competitions are essential, along with ongoing guidelines.

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A study of Knowledge, Attitude and Practice towards COVID 19 Pandemic: A case study in Insein Township, Yangon Region

Location (   )

Section (1)

Demographic Characteristics of Respondents

1.Sex
- o   Male
- o   Female

2. Marital Status
- o   Single
- o   Married
- o   Separated
- o   Widow/Widower

3. Family size
- o less than 3 persons
- o 3 persons
- o 4 persons
- o above 4 persons

4. Children
- 0   No child
- o   1 child
- o   2 children

o above 2 children

5.Age range
  o <20 years
  o Between 21 to 30
  o Between 31 to 40
  o Between 41 to 50
  o Between 51 to 60
  o Above 61

6.Education level
  o Non formal Education
  o High school or less
  o Bachelor's degree
  o Postgrad degree
  o Certificate/Diploma

7.Employment
  o Student
  o Unemployment
  o Private sector
  o Health care profession
  o Non-health care profession
  o Government sector
  o Housewife
  o Other

8.Income (Per month)
  o Less than 30,000 MMK
  o Between 30,000 MMK and 120,000 MMK
  o Between 120,001 MMK and 300,000 MMK
  o Above 300,000 MMK

<u>Section (2)</u>

<u>Knowledge about COVID-19 disease.</u>

1. Have you infected COVID 19?
  o - Never had COVID 19
  o - Had been infected by COVID 19
  o Had been re infected by COVID 19

2.Health Condition

Health issue	Y	N

3. Have you heard about COVID19? Please tick the information source that you mostly used for COVID 19 Information?

- o Seminar
- o Newspaper
- o Government announcement
- o TV
- o Radio
- o Social media
- o Neighbourhood

4. The Four most COVID 19 infectious and deadliest countries are America, India, French and Brazil.
- Yes
 -No

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Means of Transmission

No.	**Means of Transmission**	(1) Strongly disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree
1	Knowing as COVID-19 virus is spreading via the air by airborne droplets of infected person and know to wear face mask in public area.					
2	Knowing that eating the wild animals without cooking would result in COVID-19 infection.					
3	Knowing as washing hands very often with soap or use alcohol-based hand sanitizers (60%) can prevent COVID-19 infection whenever possible.					
4	Knowing that COVID-19 cannot transmit to others if he has not appear any symptoms so no need to avoid crowded place					

Symptoms

No.	Particular	(1) Strongly disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree
5	Knowing to use COVID-19 test kit. when temperature, tiredness, dry cough, difficult to breath and body aches					

No.	Means of Treatments and Prevention	(1) Strongly disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree
9	Knowing that early treatment can help better from infection.					
10	Knowing that taking traditional medicine, herbs in daily meals can cure/prevent COVID-19.					
11	Knowing Vitamin supplements can cure COVID-19 without taking any preventive measure.					
12	Knowing that taking medicine without doctor's prescription and self-medication can cure COVID-19.					
13	Knowledge on COVID-19 vaccination can prevent/reduce the occurrence of COVID-19 disease.					
14	The four most COVID 19 infectious and deadliest countries are America, India, French and Brazil.					
15	Have you heard about COVID19? Please tick the information source that you mostly used COVID 19 Information?					
6	Knowing that not all persons with COVID-19 will develop to severe cases. Only those who are elderly with underlying disease are more likely to get infected with severe symptoms.					
7	Knowing that running nose and sneezing are found less in patients with COVID-19.					
8	Knowing as common COVID-19 symptoms appear within 2 to 14 days					

Means of Treatments

Attitude towards COVID-19 disease.

	Attitude towards COVID-19 disease.	(1)	(2)	(3)	(4)	(5)

		Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	Do you think stay at home helps to mitigate the spread of the virus?					
2	Do you think that wearing face masks and washing hands frequently with soap or use alcohol based hand sanitizers (60%) can prevent covid 19 infection?					
3	Do you think COVID-19 vaccination can prevent/reduce the occourrence of COVID-19 disease?					
4	Do you think avoiding crowded and narrow spaces and avoiding chatting at close distance can prevent/reduce the occurrence of COVID-19 disease?					
5	Do you think preparing to live with COVID 19 as a new normal life is good?					
6	Do you think it is good practice to keep COVID 19 test kit and apply at home when COVID suspicious symptom occur?					

Practice for Prevention of COVID 19

		1	2	3	4	5
	Practice for Prevention of COVID 19	**Never**	**Sometimes**	**Often**	**Very often**	**Always**
1	Do you apply the following COVID 19 related materials when COVID suspicious symptom occur?(Oximeter ,Thermometer, Oxygen concentrator, COVID 19 test kit)					
2	Do you use disposable mask and dispose correctly after using it?					
3	Do you use cloth mask and wash correctly after using it?					
4	Have you been vaccinated for COVID 19?					

#		(1)	(2)	(3)	(4)	(5)
5	Frequent hand washing with soap after in contact with frequent touched surfaces, wash hand before and after touching eyes, nose and mouth					
6	Wear face mask in public area?					
7	Avoid crowded and narrow spaces and avoid chatting at close distance? Follow the 6 feet distance rule?					
8	Isolation period of covid 19 is 14 days in general?					
9	Limit physical contact,(for eg. handshake policy) ?					

Perceived Barriers to respondents to fully protecting themselves from COVID 19

#		(1) Never	(2) Sometimes	(3) Often	(4) Very often	(5) Always
1	Do you have experience of shortage of hand washing soap?					
2	Do you have experience of shortage of Hand Sanitizer?					
3	Do you have experience of shortage of Mask?					
4	Do you have experience of shortage of Gloves?					
5	Do you have experience of unavailability of these items((hand washing soap, Hand Sanitizer, Mask, Gloves) in some areas?					
6	Do you receive COVID 19 related information sufficient?					

1. Please kindly comments/suggest if any…………………………………………………………………………………………………
…….

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Thank you for your time and patient!