**CHAPTER I**

**INTRODUCTION**

* 1. **Background of the Study**

Clinical laboratory protocols on operation and safety are very important aspect in laboratory management. Covid-19 pandemic made clinical laboratories around the world impose stricter but effective protocols. The safety of the medical technologists, laboratory personnel, and doctors in the premises of the laboratory relies on the rules imposed on them for their basic operations. But stricter rules and protocols may have consequences such as delays in the release of lab results, fewer lab personnel, and change on workloads of each of the personnel and so on.

According to Kaufer et al (2020), stringent guidelines with appropriate facilities, practices and protective equipment for the safe handling of SARS-CoV-2 is vital to avoid laboratory-related infections and the spread of disease to those in close contact. Their study suggests that laboratories must adhere to national guidelines on laboratory safety procedures, and ensure the handling of all suspected SARS-CoV-2 specimens is performed in strict observance of the relevant Biosafety Level.

In the issue written by Choy (2020), in 2003, laboratory-acquired severe acute respiratory syndrome coronavirus (SARS-CoV) infections were recorded in research laboratory settings in Singapore and Taiwan, but no cases were reported in routine clinical laboratories. Furthermore, the International Federation of Clinical Chemistry and Laboratory Medicine Taskforce on COVID-19 did a global survey between April 16 and May 1, 2020, to better understand how biochemistry laboratories have mitigated biohazard risks during the COVID-19 pandemic. 1210 responses were analysed, 1067 of which were from hospital laboratories that handle moderate volumes of samples daily. During the survey period, 186 laboratories restricted tests on patients with clinically suspected COVID-19 and 171 laboratories restricted tests on patients with confirmed COVID-19. The most common restrictions were on tests of pleural fluid and respiratory samples followed by faecal tests, urine tests, and direct microscopy. 819 laboratories had increased the frequency of disinfection, most usually from once a day to four times a day. Use of pneumatic tube transport to deliver samples was reported to have diminished since the start of the COVID-19 pandemic, with hand deliveries increasing, and more layers of plastic bags were used to contain samples from patients with suspected or confirmed COVID-19. 992 laboratories denied requests for add-on testing for patients with clinically suspected COVID-19 and 814 laboratories denied requests for add-on testing for patients with confirmed COVID-19. 290 laboratories autoclaved blood samples of patients with clinically suspected COVID-19 and 276 laboratories autoclaved blood samples of patients with confirmed COVID-19.

Hoyne (2020), in his article, said that “We also have to implement social distancing, maintaining 6 feet between individuals whenever possible, holding meetings via conference calls or in rooms large enough to accommodate all the attendees while keeping appropriate distance. Staff must remind one another, independent of hierarchical position, to maintain safe distancing. Reminders should be accepted with a spirit of gratitude that each team member is looking out for the entire team.”

Bromberg et al. (2020) presented the different approach of different laboratories from different states and countries in response to the Covid-19 pandemic. In London, laboratories have been closed down and all basic science research staff has been asked to stay at home for their safety. In Ausralia, trials of experimental therapies largely halted due to concerns related to the risk of COVID-19 and potential for increased severity of infections in affected individuals. Usual monitoring practices have become problematic, with closures of regional boundaries and shipping of samples to central laboratories has in some circumstances ceased. In Germany, research personnel during the most restrictive period of the slowdown were allowed to enter the laboratories, but under controlled conditions.

On a study conducted by Malecka et al. (2020), they observed that the recommendations of authorities are not fully implemented in Polish laboratories. The majority did not observe any reduction in work efficiency, despite an increased workload together with a reduced number of team members being widely recognized.

* 1. **Statement of the Problem**

Most establishments and companies are affected by the COVID-19 pandemic. Other businesses opted for skeletal working schedule of employees, some lay off their workers and some even closed down their businesses as the government issues advisories how This paper seeks to investigate, clarify and answer the questions listed below.

1. What are the changes in the protocols of laboratory that was imposed during COVID-19 pandemic?
2. Is there a significant time difference between the release of results before pandemic and during pandemic?
   1. **Objectives of the Study**

This study aims to explore the efficacy of the protocols and new practices implemented by the clinical laboratories in Iligan City.

This research aims to investigate the research with the following objectives:

1. Identify the changes of the protocols imposed in the laboratories in Iligan City.
2. To conduct a survey among the laboratories present in Iligan City.
3. To find out whether the null hypothesis H0 which is there is no significant difference between the release of results before pandemic and during pandemic.
   1. **Significance of the Study**

This study aims to find out the effectiveness of the newly imposed protocols in the laboratories in Iligan City. First, this study will determine that if these effectiveness and changes would affect to the swiftness of the release of results. Second, this study would bring awareness to the health-care workers if ever there will be any delays of results because of the strict protocols. Lastly, the results of this study would redound to the benefits of society considering the intensive work drained by health-care providers physically and emotionally.

The results of this study is significant to the regulators of the protocols to know whether the new guidelines are effective or it may cause negative impact to the quality of the releasing of the laboratory results.

* 1. **Scope and Limitations**

The scope of this research will only be limited to the medical laboratories present within Iligan City. Laboratories that will be given the survey include private hospital laboratories, public hospital laboratories, and private owned laboratories. A survey will be given to the lab personnel with the permission of their head or owner.

* 1. **Definition of terms**

**Protocol** - the official procedure or system of rules governing affairs of state or diplomatic occasions.

**Clinical laboratory** - A laboratory where tests are carried out on clinical specimens to obtain information about the health of a patient to aid in diagnosis, treatment, and prevention of disease.

**SARS-CoV-2 –** Severe Acute Respiratory Syndrome – Corona Virus 2. Severe acute respiratory syndrome (SARS) is a viral respiratory disease caused by a SARS-associated coronavirus. It was first identified at the end of February 2003 during an outbreak that emerged in China and spread to 4 other countries. SARS-CoV-2 was identified last December 2019 during an outbreak in Wuhan, China. It was later renamed COVID-19 by the World Health Organization (WHO).

**COVID-19 –** Corona Virus Disease 2019.