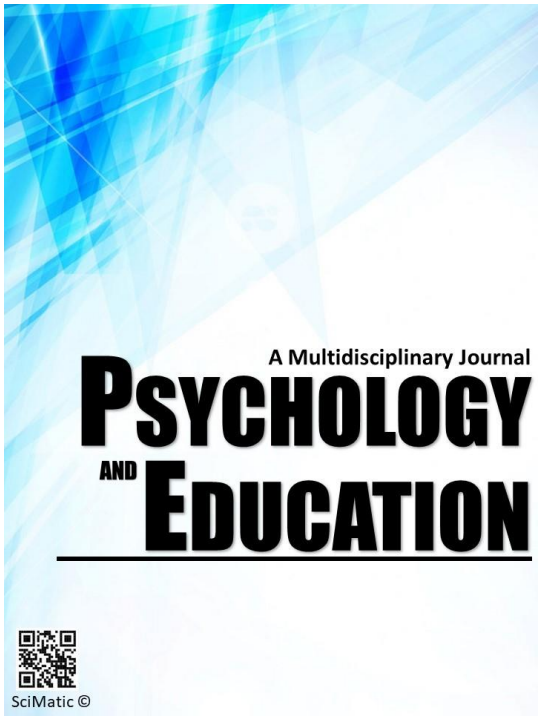
INCIDENCE OF COVID-19 AND PROFILE OF CASE IN THE DEPARTMENT OF EDUCATION, DIVISION OF BOHOL



PSYCHOLOGY AND EDUCATION: A MULTIDISCIPLINARY JOURNAL

2022
Volume: 5
Issue: 1
Pages: 375-389
Document ID: 2022PEMJ328
DOI: 10.5281/zenodo.7294601
Manuscript Accepted: 2022-05-11

Psych Educ, 2022, **5**(1): 375-389, Document ID: 2022PEMJ328 doi: 10.5281/zenodo.7294601, ISSN 2822-4353

Research Article

Incidence of COVID-19 and Profile of Case in the Department of Education, Division of Bohol

Ralph Rey C. Supremo*, Clinio L. Galviso
For affiliations and correspondence, see the last page.

Abstract

The verge of the pandemic and its continued onslaught can never be forgotten nor denied. And, quality and holistic education should be client-based most especially now in these pandemic times. On top client advocacy, the Department of Education, Division of Bohol and its stakeholders need to continue to focus on safeguarding the welfare of its workforce, its teaching and non-teaching personnel. Thus, it is illustrated the occurrence of COVID-19 and the most affected population groups within DepEd Bohol. It has uncovered that teaching personnel are the ones most at risk of contracting the disease due to their involvement in reporting physically to work. Non-teaching personnel have also been found to be at higher risk of getting infected due to the nature of their work that involves frequent inter-zonal travel and face-to-face conferences. This is supported by the establishment of a significant relationship between age group, client category, and travel exposure to key variables such as symptom status, number of symptoms reported, and hospitalization status. It can be deduced that individuals of higher age groups and work classifications are exposed to a higher possibility of occupational person-to-person contact, hence, higher risk of contracting COVID-19. Moreover, the data revealed that learners from both the elementary and secondary levels share a similar risk of being infected with COVID-19 despite the absence of face-to-face learning. This suggests that and supports the finding that the top-most source of infection exposure is the exposure to a confirmed case relative – be they an immediate family member or someone living in the same household or quarters. Further, the findings imply that the Coronavirus Organized Response and Education (CORE) Task Force and Mechanism proves potent in its implementation of the DepEd Bohol's COVID-19 response as reflected by the majority of confirmed cases being reported precisely and on time.

Keywords: *school personnel, client-based, task force, COVID-19, Philippines*

Introduction

The new (novel) coronavirus was first documented in China in December 2019. And on February 2020, the virus that causes COVID-19 (previously known as "2019 novel coronavirus") and the disease it causes have been given official names. Coronavirus disease (COVID-19) is caused by the severe acute respiratory syndrome coronavirus 2, which has been given the official designations (SARS-CoV-2) by the World Health Organization (WHO, 2021). The majority of those infected with the virus will experience mild to moderate respiratory symptoms and will recover without medical help. On the other hand, some people will become dangerously ill and require medical attention. The elderly and those with underlying medical conditions such as cardiovascular disease, diabetes, chronic lung disease, or cancer are more susceptible to serious illness. COVID-19 can make anyone sick, make them very sick, or cause them to die at any age (WHO, 2021). Since then, COVID-19 has become a household name as it pervades almost every aspect of society as it achieved pandemic status.

First and foremost, the COVID-19 epidemic is a public health emergency. Many countries have decided to close schools, colleges, and universities (for the appropriate reasons). The situation encapsulates the difficulty that authorities have in deciding whether to close schools (to reduce contact and save lives) or to keep them open (allowing workers to work and maintaining the economy). Many families around the world are experiencing a significant short-term disruption:homeschooling is a tremendous shock to parents' productivity, as well as to children's social lives and learning (Stein, Abramson, Shoob, Libal, Bitan, Cardash, & Miskin, 2020).

Despite the fact that COVID-19 is a new and emerging disease, it has the potential to be one of the most well-studied in terms of sex-disaggregated outcomes. Around half of the most severely affected nations lack gender-disaggregated data for verified COVID-19 cases and deaths, and most countries do not routinely disclose metrics like sex or pregnancy status for COVID-19 test findings, treatment, vaccine trials, or deaths (Womersley, Ripullone, Peters, & Woodward, 2020).

With the circumstances caused by the COVID-19 pandemic still in effect, its incidence and the demographic profile of those affected by it in the local education sector remain unidentified. It is essential to find out if the incidence and the characteristics of those affected by COVID-19 in the local public education sector are indeed similar to those affected by it as a whole in the general population. Hence, this

study, entitled "Incidence of COVID-19 and Profile of Cases in the Department of Education, Division of Bohol" is carried out to examine and analyze the data on three hundred and thirty-eight (338) confirmed cases among learners and personnel identified within the period August 2020 to October 2021.

The study employs the quantitative approach and attempts to uncover the actual profile of COVID-19 cases in the public schools and offices of the Schools Division of Bohol, their sources of infection, and symptom status. Furthermore, it seeks to discover the incidence of the said disease with respect to incidence proportion and death rate among learners, teaching personnel, and non-teaching personnel. And finally, it will test if a relationship exists between priority aspects of the profile.

The results of this study shall help identify learners and personnel most at risk of contracting COVID-19 and the most common presentations of COVID-19 in terms of symptoms, the possible source of exposure to COVID-19, and infection outcome. Collectively, these findings shall pave the way to recommendations that will guide the Department of Education, Division of Bohol, and key stakeholders on the implementation of measures relevant to the prevention, mitigation, and management of COVID-19 in the local education sector for the near future, and possibly in the eventuality of limited face-to-face classes in the coming years.

Research Questions

The objective of this study is to determine the Incidence of COVID-19 and the Profile of Cases in the Department of Education, Division of Bohol (DepEd Bohol) documented from August 2020 to October 2021. The findings will serve as bases in the proposition of recommendations relevant to the mitigation and control of COVID-19 among DepEd Bohol learners and personnel. Specifically, it sought to answer the following:

1. Is there a significant relationship between age group and the following:
   1.1. Travel history/exposure history;
   1.2. Symptom status (asymptomatic or symptomatic);
   1.3. Number of symptoms reported; and
   1.4. Hospitalization status (hospitalized or not hospitalized)?
2. Is there a significant relationship between sex the and following:
   2.1. Travel history/exposure history;
   2.2. Symptom status (asymptomatic or symptomatic);
   2.3. Number of symptoms reported; and
   2.4. Hospitalization status (hospitalized or not hospitalized)?
3. Is there a significant relationship between client category and the following:
   3.1. Travel history/exposure history;
   3.2. Symptom status (asymptomatic or symptomatic);
   3.3. Number of symptoms reported; and
   3.4. Hospitalization status (hospitalized or not hospitalized)?
4. Is there a significant relationship between travel history/exposure history and the following:
   4.1. Symptom status (asymptomatic or symptomatic);
   4.2. Number of symptoms reported; and
   4.3. Hospitalization status (hospitalized or not hospitalized)?
5. Is there a significant relationship between symptom status and hospitalization status?

Literature Review

In February 2020, the virus that causes COVID-19 (previously known as "2019 novel coronavirus") and the disease it causes were given official names by the World Health Organization. Disease coronavirus disease (COVID-19), virus severe acute respiratory syndrome coronavirus 2 are the official designations (SARS-CoV-2). The SARS-CoV-2 virus causes Coronavirus Disease (COVID-19), an infectious disease. The majority of those infected with the virus will have mild to moderate respiratory symptoms and will recover without the need for medical attention. Some, on the other hand, will become critically unwell and require medical assistance. Serious sickness is more likely to strike the elderly and those with underlying medical disorders such as cardiovascular disease, diabetes, chronic respiratory disease, or cancer. COVID-19 can make anyone sick and cause them to get very ill or die at any age (WHO, 2021).

A COVID-19 case is confirmed through an RT-PCR test or a Reverse Transcriptase-Polymerase Chain Reaction. Real-time reverse transcription-polymerase chain reaction (RT–PCR) is a nuclear-based approach for identifying the presence of specific genetic material in any disease, including viruses. Originally, radioactive isotope markers were employed to detect specific genetic elements, but later refinement has resulted in the employment of unique markers, most often fluorescent dyes, to replace isotopic labeling.

Unlike traditional RT–PCR, which only provides data at the conclusion of the process, this technology allows scientists to examine the results practically instantly while the procedure is still running. One of the most extensively used laboratory methods for detecting the COVID-19 virus is real-time RT–PCR. While several nations have employed real-time RT–PCR to diagnose other diseases such as Ebola and Zika, many more require assistance in applying this technology to the COVID-19 virus and expanding their national testing capacities (International Atomic Energy Agency, 2021)

Real-time reverse transcription PCR (RT-PCR) is a well-established method for determining the amount of mRNA in biological materials. The sensitivity, extensive dynamic range, and possibility for high throughput as well as accurate quantification are all advantages of this process over traditional methods for quantifying RNA. Its increased specificity is especially valuable in immunological research, where proteins generated from many splice variants of the original transcript are regularly analyzed. Furthermore, because many essential proteins (such as cytokines and transcription factors) are found in such low quantities, real-time RT-PCR quantification of their mRNAs is the only technology sensitive enough to assess their expression in vivo consistently (Huggett, Dheda, Bustin, & Zumla, 2005).

The COVID-19 epidemic is a public health emergency. Many countries have decided to close schools, colleges, and universities (for the appropriate reasons). The situation encapsulates the difficulty that authorities have in deciding whether to close schools (to reduce contact and save lives) or to keep them open (allowing workers to work and maintaining the economy). Many families around the world are experiencing a significant short-term disruption: homeschooling is a tremendous shock to parents' productivity, as well as to children's social lives and learning (Burgess & Sievertsen, 2020).

Cities and states have imposed restrictions on educational and corporate operations in reaction to COVID-19, with citations, fines, and license suspensions as penalties. Almost every state has shut down or restricted the operation of pubs, restaurants, theaters, gyms, shopping malls, and other establishments. With the exception of health care, first responders, the food and agriculture sector, and other necessities, more than half of states have closed all non-essential enterprises. Several local governments have enacted nocturnal curfews to keep crowds to a minimum, particularly in areas where governors have been hesitant to issue stay-at-home orders. During natural disasters or moments of civil upheaval, states and municipalities have frequently imposed curfews. In emergency situations, courts will sustain time-limited curfews unless they are unjust or discriminatory (Lo, 2021).

Quarantine orders have been issued in more than a dozen states for people entering the state. Quarantines have been imposed in a few states for anyone entering from outside the state. Travelers from particular places with high COVID-19 mortality, such as New York, New Jersey, Connecticut, Washington, California, and Louisiana, are subject to most state orders. Travelers who are placed under quarantine must stay at home or in temporary lodging at all times for 14 days while being monitored. Unlike regular stay-at-home orders, which enable these types of activities, these persons are not allowed to go out to obtain food or other necessities during this period. If it is obviously necessary to prevent the interstate transmission of a contagious disease, Congress has the authority to impose travel restrictions between states and territories. In the absence of explicit legislative authorization, the president's authority to do so is unclear (Lo, 2021).

While schools are closed, it is critical to ensure that adequate resources are made available for remote learning and that student support programs are maintained and expanded. During school closures, money that was not included in prior budgets will be needed to support remote learning. Furthermore, school nutrition programs and other forms of student support (such as stipends) are expected to become increasingly more necessary. For children to continue to study, resources to guarantee that these programs continue and, where possible, expand their scope will be crucial (Al-Samarrai, 2020).

Morbidity is defined as any departure from a condition of physiological or psychological well-being, whether subjective or objective. Morbidity, in this context, refers to disease, injury, and incapacity. Furthermore, while the term relates to the number of people that are sick, it may also be used to express the length of time that these people were sick or the duration of their diseases. The incidence rate is the number of newly diagnosed cases divided by the population during a specific period of time (CDC, 2021).

The incidence rate, also known as the person-time rate, is a measure of incidence that includes time in the denominator. A person-time rate is often estimated from a long-term cohort follow-up research in which

participants are observed over time and new incidences of the disease are reported. Typically, each person is followed until one of four "endpoints" is reached: the beginning of the disease, death, migration out of the research ("lost to follow-up"), or the study's conclusion. The numerator of the incidence rate, like the incidence proportion, is the number of new cases identified during the observation period. The denominator, on the other hand, is different. The denominator represents the entire amount of time each individual was observed, divided by the number of people. This denominator shows the total amount of time that the population was at risk of disease and was being monitored for it. As a result, the incidence rate is defined as the ratio of the number of cases to the entire period the population is exposed to disease risk (CDC, 2021).

On the other hand, Incidence Proportion is the proportion of a disease-free population that develops a disease, becomes wounded, or dies during a specific (typically limited) period of time is known as the incidence proportion. Attack rate, risk, disease probability, and cumulative incidence are all synonyms. Because the folks in the numerator, those who develop sickness, are all included in the denominator, the incidence percentage is a proportion (the entire population) (CDC, 2012).

The Philippines confirmed local transmission of COVID-19 on March 7, 2020. Characteristics were described, and epidemiological time-to-time event distributions for laboratory-Confirmed cases in the Philippines were recorded up to April 29, 2020, and followed until May 22, 2020. The Median age of 8212 cases was 46 years, with 46.2% mostly female and 68.8% living in the National Capital Region, Health care workers were represented 24.7% of all detected infections (National Center for Biotechnology Information, 2021).

From January 3, 2020, to 9:17 am on October 13, 2021, there were 2,674,814 confirmed cases of COVID-19 in the Philippines, with 39,660 deaths, according to WHO. Older age, male gender, and Asian race were all linked to a higher risk of COVID-19 infection (Rozenfeld, Beam, Maier, Haggerson, Boudreau, Carlson, & Medows, 2020).

In a study involving COVID-19 Susceptibility, Mortality, and Length of hospitalization based on age-sex composition: Evidence from Davao Region Philippines by Roel F. Ceballos in 2021, he discovered that male children and senior female people are the most vulnerable age-sex compositions, according to the report, with male senior citizens having the greatest case fatality and mortality rates. Furthermore, regardless of gender, older citizens are the segment that spends the most time in the hospital.

March 13, 2020 saw Israel's government announce the entire closure of all educational establishments as part of the coronavirus illness (COVID-19) pandemic containment measures. And on May 3, 2020, a limited number of schools (kindergartens, grades 1–3 and 11–12) were permitted to reopen in small groups. Following that, on May 17, 2020, all school courses resumed, with daily health reports, hygiene, facemasks, social separation, and minimal interaction between classes as requirements. The first large COVID-19 school outbreak in Israel occurred ten days later at a high school. The first case was filed on May 26, and the second on May 27. There was no epidemiological link between the two cases. COVID-19 positive kids (attack rate: 13.2%) and staff members (attack rate: 16.6%) were discovered during testing of the entire school community. A total of 260 people were infected (students, staff members, relatives, and friends). The goal of this report is to describe the investigation and epidemiological characteristics of the epidemic at the school (Stein-Zamir, Abramson, Shoob, Libal, Bitan, Cardash, & Miskin, 2020).

According to Zoe Hyde in her study in 2020, it is unclear what role youngsters play in transmission, but they don't appear to be any less contagious than adults. The amount of viral RNA found in nasopharyngeal swabs of children aged 5–17 years was similar to that of adults in a study of symptomatic patients with mild to moderate COVID-19. However, children's sensitivity can be estimated through household contact investigations. Some studies demonstrate that youngsters have lower attack rates than adults, while others show no difference. Children and spouses of index cases were more likely to be infected than other household members, including siblings, parents, and extended family members, in a study of 58 US families (58 index cases plus 188 household contacts). This shows that children and adults are both susceptible to infection and that any differences in attack rates are due to behavioral and environmental factors.

With the factoring in of COVID-19 transmission in children considered, W. J. Edmunds, in “Finding a path to reopen schools during the COVID-19 pandemic” (2020), did a follow-up research in area primary schools and found substantially lower infection rates (6–12%) among staff, students, and family members, as well as no clear evidence of

secondary transmission within the schools. The difference in infection rates between secondary and primary schools could be significant. COVID-19 rates among household contacts of cases were lowest when the index case was younger than 10 years old (three [5%] of 57) and highest when the index case was aged 10–19 years old, according to contact tracing data from South Korea (43 [19 percent] of 231).

All these circumstances envelop not just Bohol or the Philippines but the entire world. And due to the closure of public and private schools to preserve the health of students and educators, teaching had to be done remotely using modular and digital platforms. Education Leonor Briones said in a statement on May 8 that the Department of Education's key response and commitment in preserving the health, safety, and well-being of learners, instructors, and workers is the Basic Education - Learning Continuity Plan (BE-LCP) (Teresa, 2020).

The Department of Health (DOH) Workplace Handbook on COVID-19 Management and Prevention (2020) is one of the major guides for public and private workplaces to follow in the pandemic. If a person experiences COVID-19-like symptoms (fever, cough, sore throat, myalgia, flu-like sickness), that individual needs to self-isolate or stay at home and do not report to work, and inform their supervisor as soon as possible. If exposed to a COVID-19 suspect, probable, or confirmed case, a worker has to undergo a risk exposure assessment and be subjected to a contact tracing procedure, as authorized by the Department of Health and local government and workplace laws.

In terms of employers, they must do contact tracing in their workplace to identify close contacts, which may be done using workplace CCTV. Employers must guarantee that close contacts of employees who have a positive RT-PCR test are quarantined for 14 days. And during the 14-day quarantine, close contacts must report any changes, including new symptoms, to their employer/OSH Committee approved people, and symptomatic employees should update their employer on their COVID-19 test results from a nationally accredited testing institution (DOH, 2020).

The same DOH Workplace Handbook on COVID-19 Management and Prevention prescribes the categorization of cases involving the viral disease. A Probable Case is a patient who fits the clinical criteria for a suspect case AND is a contact of a probable or confirmed case, or who is epidemiologically linked to a cluster of cases with at least one confirmed case. They are questionable patients with features suggestive of COVID-19 illness on chest imaging. A person who has recently developed anosmia (loss of smell) or ageusia (loss of taste) without any other known reason. And death of an adult with respiratory distress prior to death AND who has a contact with a probable or confirmed case OR who is epidemiologically linked to a cluster with at least one confirmed case within that cluster (DOH, 2020).

On the other hand, a Confirmed Case is any person who has had COVID-19 confirmed in a test at a national reference laboratory, a subnational reference laboratory, or an officially recognized laboratory testing facility. Close Contacts are individuals who were exposed two (2) days before to or within 14 days of the beginning of symptoms in a confirmed or probable case: within 1 meter and for at least 15 minutes, face-to-face contact with a possible or proven case. The DTI-DOLE Joint Memorandum Circular No. 2020-04-A extends this to personnel wearing or not wearing a mask. A close contact can also be the direct contact with a suspected or proven case, or the direct care for a patient with COVID-l9 illness, either suspected or confirmed without the use of personal protective equipment (PPE) and other circumstances as determined by local risk assessments.

The COVID-19 pandemic has greatly affected the working conditions of the health workers. They are prone to risks of being infected with the COVID-19 virus, and they are even experiencing other occupational health and safety risks, e.g., biological, physical, and psychosocial. The WHO therefore recommended the implementation of infection prevention and control, occupational and health safety, and psychosocial support measures to aid the needs of the health workers (WHO, 2021). Governors and mayors have directed or advised the majority of the US population to stay at home, with limited exceptions for meeting essential needs (e.g., food shopping or refilling a prescription) and outdoor physical activity, despite the fact that the parameters and methods of enforcement vary greatly (e.g., walking or jogging). Modeling studies for COVID-19 reveal that intense physical separation could aid in the maintenance of healthcare capacity (Lo, 2021).

At the moment, the entire world is dealing with the COVID-19 pandemic. It is critical to disrupt transmission chains, as this is the most effective method for quickly limiting a surge in COVID-19 cases. Household separation is becoming more widespread in many nations as a containment tool (Zhu, Wang, Dong, & Xiao, 2020). Organizations are forbidding travel to medical meetings, postponing

conferences, limiting non-essential travel, and suggesting that personal travel be avoided, recognizing the potential of health care worker shortages. To keep caregivers close and available, travel restrictions are applied not only to affected regions but also to domestic and international locations. Traveling and crowds should be avoided to reduce the risk of infection (Adams & Walls, 2020).

Related Studies

The Philippines is a multi-island archipelago made up of three island groups and 17 regions organized into 81 provinces, each with 146 cities and 1488 municipalities. COVID-19 surveillance, like the majority of healthcare delivery, is delegated to local government units (LGUs), which include provinces, cities, and municipalities. Regional epidemiology and surveillance units (RESUs), provincial epidemiology and surveillance units (PESUs), and city/municipality epidemiology and surveillance units (CESUs/MESUs) exist at all levels of government. Units collect and report statistics for their jurisdictions to higher-level units: Daily updates are sent from CESUs/MESUs to PESUs, who then send them to regional ESUs, who then send them to the DOH-Epidemiology Bureau (EB). The National Capital Region (NCR), which consists of 15 cities and one municipality, as well as 37 highly urbanized cities and independent component cities, is not governed by a provincial government and reports directly to the RESUs (Rozenfeld, Beam, Maier, Haggerson, Boudreau, Carlson, & Medows, 2020).

The DOH-EB is in charge of COVID-19 surveillance at the national level. It compiles data on verified and suspected cases across the country and offers information and help to all local governments. COVID-19 cases are tracked by DOH-EB using a method modeled after influenza-like illness (ILI)/severe acute respiratory infection (SARI) monitoring. Case investigation forms (CIF), which record patient features, epidemiologic linkages, and select clinical information, are used to characterize confirmed cases (Rozenfeld et al., 2020).

Despite the fact that covid-19 is a new and emerging disease, it has the potential to be one of the most well-studied in terms of sex-disaggregated outcomes. Around half of the most severely affected nations lack gender-disaggregated data for verified covid-19 cases and deaths, and most countries do not routinely disclose metrics like sex or pregnancy status for covid-19 test findings, treatment, vaccine trials, or deaths. Women fare better than men in terms of disease severity, the chance of hospitalization, and risk of death, according to current Covid-19 mortality and morbidity data. This disparity can be evident across countries and socioeconomic categories, despite the fact that men and women have similar case numbers (Womersley, Ripullone, Peters, & Woodward, 2020).

Research done in Geneva found 18.1 percent of the 30,557 people tested positive, 22.2 percent were hospitalized, and 703 were enrolled in COVICARE follow-up. The average age of the patients was 42.8 years; 60% of them were women, 24.6 percent were healthcare employees, and 68.8% had no underlying risk factors. During the trial, forty people were admitted to the hospital. The average age of hospitalized patients was 53.2 years; 55 percent of men, 12.5 percent of healthcare workers, and 62.5 percent had underlying risk factors (Nehme, Braillard, Alcoba, Aebischer Perone, Courvoisier, & Chappuis, 2021).

On the contrary, Rozenfeld, Y. et al., in 2020 found older age (OR 1.69; 95 percent CI 1.41–2.02, p = 0.0001), male gender (OR 1.32; 95 percent CI 1.21–1.44, p 0.0001), and Asian race (OR 1.43; 95 percent CI 1.18–1.72, p = 0.0002) were all linked to a higher risk of COVID-19 infection. Furthermore, the study of Triggle, Bansal, Ding, Islam, Farag, Hadi, & Sultan in 2021 uncovered that infected elderly people are more likely to acquire severe illness and sequelae, resulting in higher morbidity and mortality rates. Case fatality was 8.0 percent in patients aged 70–79 years and 14.8 percent in patients aged 80 years, according to a large-scale Chinese study encompassing 72,314 individuals (179).

Throughout 2020 and across periods, females had a higher incidence than males. Across all time periods, the incidence of the disease was lowest among younger children. The lowest incidence was observed among children aged 5–9 years during January–April, those aged 0–9 years during May-August, and those aged 0–4 years during September–December (Van Dyke, Mendoza, Li, Parker, Belay, Davis, & Clarke, 2021). The research entitled "SARS-CoV-2 shedding dynamics across the respiratory tract, sex, and disease severity for adult and pediatric COVID-19" by Chen, Bobrovitz, Premji, Koopmans, Fisman, & Gu in 2021 saw that the data were divided into three age groups since the severity of COVID-19 clinical symptoms and case-fatality rates tend to rise among children (aged 0–17 years), younger adults (aged 18–59 years), and elderly persons. Sex was also used to categorize the cases.

Brady, Nielsen, Andersen, & Oertelt-Prigione in 2021, commit that SARS-CoV-2 infection and COVID-19 mortality are affected by sex and gender variations. In addition, differences in sex have an impact on the frequency and severity of pharmaceutical adverse effects. A vast number of clinical trials are underway to discover new COVID-19 treatment methods and vaccines.

To add to this, handwashing, social separation, wearing masks, and successfully and proactively seeking medical treatment are also lower among men than among women. Many men have been socialized to hide their fears, and it's crucial to think about how this affects men's reactions to COVID-19. It's especially vital to target men who react aggressively and angrily to threats like COVID-19. People who have this response "tend to downplay risk and are reluctant to risk reduction initiatives," according to research, which is problematic for promoting social distance and other pandemic limitations (Griffith, Sharma, Holliday, Enyia, Valliere, Semlow, & Blumenthal 2020).

The Philippines is one of the most severely affected developing countries. The country has more COVID-19 laboratory-confirmed cases and deaths per capita than many other Asian countries, including the most diagnosed cases per capita in Southeast Asia, according to global data on COVID-19 infections. Both morbidity and mortality from COVID-19 have been disproportionately male in the Philippines, as in the majority of countries: in April 2021, 53 percent of confirmed COVID-19 cases were male, and 60 percent of deaths were male, compared to global averages of 54 percent for COVID-19 cases and 59 percent for deaths (Lavado, Nowacka, Raitzer, van der Meulen Rodgers, & Zveglich Jr, 2021).

In the study “Clinical Profile and Outcome of Adult COVID-19- related Consults at the University of the Philippines - Philippine General Hospital Emergency Department” by Tabuñar & Magsino in 2021, the median age of the 901 COVID-19-related ED consultations was found at 46 years, with 55.49 percent of the males being under 60 years old. Almost all were Filipinos (99.44 percent), with the majority living in Manila (64.93 percent) and only 2.22 percent having traveled outside the nation previously. Fever was the most prevalent symptom (32.47 percent), followed by cough (27.58 percent) and shortness of breath (27.58 percent) (25.75 percent). The majority of patients reported symptoms between 1 and 7 days (79.80 percent) before going to the ED, and 86.07 percent (n=210) were COVID-positive after the confirmatory test.

Only a few trials have been published in which younger age groups have been infected with SARS-CoV-2, despite infection being mild and transmissibility being comparable. A China-based study by Chauhan, Soni, & Jain in 2021 indicated that among 44,762 confirmed COVID-19 cases, 1.0 percent of children (10 years) tested positive. In another study, out of 32,437 verified tests at public health laboratories in the United States, only 0.5 percent (0–4 years) and 1.3 percent (5–17 years) of people in lower age groups were found to be positive. In comparison to older persons, children had a decreased incidence and severity of common symptoms, according to this research.

COVID-19, like other coronavirus subtypes, is conveyed from person to person via droplet dissemination. The virus can infect a host by coming into contact with any mucosal linings, including the mouth, nose, and eyes, either directly as respiratory air droplets (suspended in the air when an infected person coughs, sneezes, or talks) or indirectly (when droplets land on a surface; fomites). The reproduction number (R0) of COVID-19 varies, with estimates from a meta-analysis ranging from 1.4 to 6.49, with a mean of 3.28 and a median of 2.79, which is greater than SARS (Mallah, Ghorab, Al-Salmi, Abdellatif, Tharmaratnam, Iskandar, Sefen, Sidhu, Atallah, El-Lababidi, & Al-Qahtani, 2021).

In terms of COVID-19, symptomatic infections were shown to range from mild to critical. However, 80% of patients have mild symptoms, with less than 20% experiencing severe symptoms and an even less than 5% experiencing respiratory failure. The mean age of hospitalized patients was 49-55 years old. And similar to prior reports from China, reports by the United States of patients treated from February 12, 2020, to March 2020 showed that 67% of those hospitalized were more than 45 years of age (Elhadi, Msherghi, Alkeelani, Zorgani, Zaid, Alsuyihili, & Amshai, 2020).

In symptomatic COVID-19 infections, Pullen, Skipper, Hullsiek, Bangdiwala, Pastick, Okafor, & Boulware in July 2020 found that cough (82 percent), fever (67 percent), weariness (62 percent), and headache (60 percent) were the most often reported symptoms in individuals with confirmed infection, with only 52 percent reporting both fever and cough.

Although anosmia and ageusia are suspected COVID-19 symptoms, there is no documented evidence in the peer-reviewed scientific literature at this time. COVID-19 observational studies should

include data to look into this further, as there is a need for quick data exchange and analysis to better understand the disease's progression (Pullen, Skipper, Hullsiek, Bangdiwala, Pastick, Okafor, & Boulware, 2020). However, in the study "Real-time tracking of self-reported symptoms to predict potential COVID-19" by Menni, Valdes, Freidin, Sudre, Nguyen, Drew, & Spector in 2020, symptoms besides anosmia that might be related to SARS-CoV-2 infection were identified using logistic regressions adjusted for age, sex, and BMI. After controlling for multiple testing, all ten symptoms (fever, persistent cough, exhaustion, shortness of breath, diarrhea, delirium, skipped meals, abdominal discomfort, chest pain, and hoarse voice) were linked to testing positive for COVID-19 in the UK cohort. Only loss of smell and taste, weariness, and missing meals were linked to a positive test result in the US cohort.

In the case series of Mak, Chung, Wong, Shek, & Kwan in 2020, children and adolescents with COVID-19 infection may appear with anosmia alone, with no accompanying respiratory symptoms, portraying a different picture than its adult manifestations. Because it isn't a well-known symptom, there are probably more undiagnosed carriers in our community who are at danger of spreading the virus. As a result, in the midst of the COVID-19 pandemic, we must be on the lookout for anyone who exhibits anosmia or ageusia. To limit the risk of person-to-person transmission, the public should be advised to self-isolate and seek medical help if they exhibit signs of new-onset anosmia or ageusia.

The US study of Burke, Midgley, Dratch, Fenstersheib, Haupt, Holshue, M., Ghinai, Jarashow, Lo, McPherson, Rudman, Scott, Hall, Fry, & Rolfes (2020) saw local health jurisdictions undertake active symptom monitoring of 445 close contacts, which included daily phone, text, or in-person inquiries regarding fever or other symptoms for 14 days after the last known exposure to a person with confirmed COVID-19. During the 14 days of active symptom monitoring, 54 (12%) close contacts acquired new or worsening symptoms deemed problematic for COVID-19 by local public health authorities and were thus designated as persons under investigation (PUIs) and tested for SARS-CoV-2.

Key aspects in workplaces and schools during the pandemic are reporting or case finding, contact tracing, and preventive and control measures in the Philippines. The increased turnout rate of COVID-19 cases can be attributed to being a result of a) increased number of accredited testing centers, b) availability of testing kits, and c) country-wide deployment of testing kits resulting in extended testing operations are among the reasons for the increasing trend of infections in CV. In light of this, it's possible that the country has more unrecorded and/or underreported positive instances. Under-reporting appeared to be more common in most pandemic studies, as persons with minor symptoms typically do not seek medical help, as in the pandemic influenza (H1N1) and tuberculosis (TB) epidemics. The observation of a sudden increase/spike in the number of cases is mathematically abnormal. Because infected people are generally asymptomatic, the true number of patients with COVID-19 infections could be two or three times higher (Corcino, Elnar, Maglasang, & Casas, 2021).

The reporting of cases and symptoms is indeed important. However, the refusal to reveal potential links to high-risk events can have a serious socio-ecological impact on COVID-19 management and control. Disclosure of suspected SARS-CoV-2 exposure on an individual and interpersonal level could expose people in the community to infection, contributing to community transmission and clusters. Furthermore, when individuals present themselves to healthcare facilities at the outset of symptoms, they may conceal critical information about probable COVID-19 exposure due to stigma and fear (Teo, Tan & Prem, 2020). Hospitalization reports during the pandemic are currently delayed, ambiguous, and woefully inadequate. All key parties are invited to make self-reporting and reporting of COVID-19 hospitalizations a top priority in the fight against this deadly virus (McCullough, Eidt, Rangaswami, Lerma, Tumlin, Wheelan, & Ronco, 2020).

Controlling the spread of COVID-19 is crucial. Le, N. K., Le, Brooks, Khetpal, Liauw, Izurieta, & Reina Ortiz, in 2020, found that the slope of cumulative cases was reduced by 63.6 percent in countries that enacted a stay-at-home order (p 0.001). The slope of cumulative instances decreased by 61.1 percent as a result of school closures (p 0.001). The closure of non-essential enterprises resulted in a 61.7 percent decrease in the slope of cumulative cases (p 0.001), and significant travel restrictions resulted in a 56.9% decrease (p 0.001).

Initial illness screening, quick contact tracing at entry points such as airports is critical. When passengers on repatriation flights to Greece were examined for SARS-CoV-2 infection, similar results were found. Despite being asymptomatic at the time of arrival, a tiny percentage of travelers from the United Kingdom, Spain, and Turkey (3.6, 6.3, and 6.3 percent,

respectively) were tested positive. In the event that testing all travelers is not possible, a tight quarantine period of at least 14 days can be imposed to decrease the danger of COVID-19 importation (Sharun, Tiwari, Natesan, Yatoo, Malik, & Dhama, 2020).

Although there was local variance, the cross-sectional study of Gao, Rao, Kang, Liang, Kruse, Dopfer & Patz (2020), employing the anonymous location data from more than 45 million mobile phones, found that median commute distance reduced and stay-at-home time increased across the country. After stay-at-home orders were implemented, the state-specific empirical doubling time of total COVID-19 cases increased significantly (i.e., the spread narrowed). When stay-at-home social distancing regulations were observed, the spread of COVID-19 was limited, according to these data. It was found that a change in grocery mobility and work mobility translated to lower rates of infection (Abedi, Olulana, Avula, Chaudhary, Khan, Shahjouei & Zand, 2021).

Employers are responsible for making workplaces safe. Every worker has a legal right to a safe workplace, and OSHA's objective is to ensure that businesses comply with this right by ensuring that risks that could damage workers or increase their risk of sickness are eliminated. Businesses must implement a variety of preventive measures until they are convinced that employees, contractors, service personnel, and customers entering workplaces are not shedding viruses, none of which is sufficient on its own. Every workplace should have a clear COVID-19 prevention plan that includes the following: scheduling and workspace design to avoid crowding and allow physical separation; personal protective equipment (PPE) such as masks and respirators when needed; enhanced ventilation; hand sanitation and adequate washing facilities; and disinfection of potentially contaminated surfaces. Workers having symptoms that are compatible with COVID-19 or who have had close contact with individuals who are infected should be screened (Michaels & Wagner, 2020).

The COVID-19 epidemic has had a significant impact on the education sector. A study revealed some of the new typical situations in the school setting in the Philippines, where COVID-19 infections are still on the rise. However, despite advocating many responses to the new normal, there were several obstacles and issues raised. As a result, schools at all levels must address these issues and carefully examine plans and procedures for implementing the new normal. In these trying times, the most important thing is to work together (Tria, 2020).

A study in the Philippines found that teachers and their family members are not at an elevated risk of hospitalization with COVID-19 and are at a lower risk of severe COVID-19 when compared to working-age individuals who are otherwise similar. These findings are generally comforting for adults who teach in person (Corcino, Elnar, Maglasang, & Casas, 2021). But despite the said circumstances, this study is necessary as it undertakes a contextualized foray into the actual picture of COVID-19 in the Department of Education, Division of Bohol.

Methodology

Research Design

A quantitative approach is employed by this descriptive study. This approach often uses deductive logic, in which the researchers begin with hypotheses and collect data which is used to determine whether empirical evidence exists to support the hypothesis. The quantitative approach is used in analyzing the documented confirmed COVID-19 cases among learners and personnel of the Department of Education, Division of Bohol (DepEd Bohol).

This documentary study aims to analyze the incidence and the profile of the COVID-19 cases of DepEd Bohol through the data mining of existing data held by the School Health and Nutrition Section of the School Governance and Operations Division, of the Department of Education, Division of Bohol.

Respondents

The respondents included in the study will be the 338 identified confirmed COVID-19 cases of the Department of Education, Division of Bohol documented from August 2020 to October 2021. Among these 338 confirmed cases, 189 are teaching personnel, 35 are non-teaching personnel, and 114 are learners.

Only the confirmed COVID-19 cases identified by the Coronavirus Organized Response and Education (CORE) Task Force and Mechanism from the public schools of the province of Bohol are included in the study. Confirmed COVID-19 cases among DepEd Bohol learners and personnel who are not reported through the CORE Reporting Mechanism shall not be included in the study. The respondents are then categorized by respondent groups. These three groups are namely Teaching Personnel, Non-Teaching Personnel, and Learners.

The learners are divided into two subgroups, the elementary school learners and the secondary school learners. Pupils from enrolled in kindergarten to Grade 6 compose the elementary school learners, while students in Grades 7 to 12 compose the secondary school learners. Teaching personnel is representative of teachers coming from elementary schools, secondary schools, and the Alternative Learning System (ALS). Finally, non-teaching personnel is composed of school administrators, district supervisors, district office personnel, security personnel, utility personnel, schools' division office personnel, and other personnel who are not employed as teachers. Confirmed cases from the teaching and non-teaching personnel are considered as respondents regardless of permanent or non-permanent employment status.

Table 1. *Distribution of Respondents (N=338)*

Items	*F*	*%*	*Rank*
Respondent Groups			
Learners	114	33.73	2
Teaching Personnel	189	55.92	1
Non-Teaching Personnel	35	10.36	3
Total	338	100	

Instrument

This study employs data mining in the gathering and analysis of data from documents on confirmed COVID-19 cases as gathered by the Department of Education, Division of Bohol Coronavirus Organized Response and Education (CORE) Task Force.

The raw data from the confirmed cases are gathered through the Division CORE Reporting Mechanism and Task Force in line with the directive of the DepEd Task Force COVID-19 in the reporting and monitoring of COVID-19 cases among DepEd learners and personnel.

Once a confirmed COVID-19 case is identified in a school or office in the Department of Education, Division of Bohol, the CORE Task Force at the school or office level gathers the necessary data such as, but not limited to personal information, and details on the source of transmission. The School CORE Task Force, composed of the School Head, the School Disaster Risk Reduction Management (DRRM) Coordinator, and the School Clinic-in-Charge, gathers the data and validates the case by communicating with the concerned learner or personnel, or their immediate family member.

After having the data gathered, the School Task Force shall notify the DepEd Nurse assigned to the school on the case, and then a member of the task force or the nurse shall encode the data into the Bohol Division COVID Summary reporting, an electronic reporting tool in Google Form format. A data privacy notice is stated upon opening the online reporting tool in compliance with the Data Privacy Act of 2012. Only when the reporter agrees to the data privacy notice can he/she proceed with the reporting of the data, as ticking "No" in the data privacy notice shall render the form submitted despite it having no entries.

The data collected by the online form is then transferred to the Bohol Division COVID Summary (Google Sheet). This sheet is updated on a daily basis by the DepEd Bohol Surveillance Coordinators (DESC).

Data Gathering Procedure

The researcher, being a student of the University of Bohol Graduate School under the Masters in Public Administration Program while at the same time an employee of the Department of Education, first submits and presents the study for a proposal to the Director of the Graduate School, selected panelists, and a thesis adviser. Recommendations from the panel have been applied to the paper through revisions. After the proposal, the paper is subjected to changes based on the recommendations of the group. After approval from the thesis adviser, the research paper is submitted to the UB Ethics Board for review. The conduct of an ethics review is done to ensure that ethical considerations were adequately followed and observed. Upon approval of the proposal, the letter is submitted to the Vice President for Academics and to the Director of the Graduate School, who grants permission to conduct the study outside the school premises.

After approval by the UB, Ethics Board gives permission to conduct the study, the researcher prepares the transmittal letter expressing intent to gain access to the documentary data on the COVID-19 cases of the Department of Education, Division of Bohol held by the School Health and Nutrition Section of the said agency. The letter expresses that the researcher will only need access to the consolidated and anonymized data on the cases. The letter is addressed to the Schools Division Superintendent through the Senior Education Program Specialist for

Planning and Research – Division Research Coordinator. Prior to the transmittal of the letter of intent, it is duly signed by the Dean of the University of Bohol Graduate School, and also noted by the Medical Officer and Nurse-in-Charge of the School Health and Nutrition Section of the Department of Education, Division of Bohol. The letter of intent is then transmitted to the Office of the Schools Division Superintendent.

After going through the Office of the Schools Division Superintendent, a letter of endorsement is given by the said office as a reply to the letter of intent by the researchers. The Schools Division Superintendent then allows access to the documentary data provided that certain conditions were complied with by the researcher. The first of these conditions is to inform the district supervisor, in this case, the medical officer, on the activity and its purposes. Second, a reminder on DepEd Order No. 9, s. 2005, or the "No Disruption-of-Classes Policy." Third, that ethical considerations on the conduct of the research are observed. Fourth, that accomplished questionnaires (if any) are kept in private and disposed of properly if no longer needed. And lastly, that a copy of the executive summary of the overall results of the study is furnished to the office through the Planning and Research Section.

Once access to the documentary data is secured, data gathering commences through data mining. Hence, there is no direct contact between the researchers and the respondents themselves. Once access to the data is granted by the School Health and Nutrition Section of DepEd, it is provided to the researcher in a consolidated format in the form of a Microsoft Excel spreadsheet. Collation, coding, encoding, and analysis of the gathered data proceeds using the Statistical Package for Social Sciences (SPSS) software. The data is subjected to statistical treatment to test the hypotheses. The findings serves as the bases for drawing conclusions and recommendations. The researcher then presents the data to the Director of the Graduate School and the research panel for the final oral defense.

Ethical Consideration

Before data gathering, the study undergoes ethical review in line with the ethical guidelines set by the Ethical Research Committee of the University of Bohol. The principle of data mining is employed by the study; hence, survey questionnaires or interviews shall no longer be necessary. With that, the research ensures strict compliance to the ethical standards as the proper grant of access to the data shall be given a paramount concern, and in doing so, is understood to follow all the prescribed procedures and considerations for data access. Given the fact that the data gathering procedure only involves the mining of already existing data from documents, the privacy of each respondent is guaranteed by the use of consolidated and anonymized data, where personal identifiers are omitted from the data before it is furnished to the researchers.

Results and Discussion

Data gathered are presented, analyzed, and interpreted using statistical tools and in reference to existing theories and literature.

Relationship between Age Group and Travel/Exposure History, Symptom Status, Number of Symptoms Reported, and Hospitalization Status

Table 2. *Age Group and selected variables*

Variables	*rs*	*p-value*	*Interpretation*	*Decision*
Age Group and Travel History / Exposure History	0.093	0.089	Not significant	H_0: Do not reject
Age Group and Symptom Status	0.271**	0.000	Significant	H_0: Reject
Age Group and Number of Symptoms Reported	0.278**	0.000	Significant	H_0: Reject
Age Group and Hospitalization Status	0.158**	0.003	Significant	H_0: Reject

Table 2 above shows that Symptoms Status, Number of Symptoms Reported, Hospitalization Status demonstrate a low degree positive relationship to Age Group at the 0.01 level of significance, hence the null hypothesis is rejected. Although minimal, it can be said that there is a significant relationship between age group and the symptom status, the number symptoms reported, and hospitalization status. It can then be implied to a certain degree that the higher the age of a confirmed case, the more likely will be the presence of symptoms of COVID-19 just as younger individuals can be considered at a decreased incidence and severity of symptoms (Chauhan & Jain, 2021).

Relationship between Sex and Travel/Exposure History, Symptom Status, Number of Symptoms Reported, and Hospitalization Status

Table 3. *Sex and selected variables*

Variables	*rs*	*p-value*	*Interpretation*	*Decision*
Sex and Travel History / Exposure History	0.012	0.831	Insignificant	H_0: Do not reject
Sex and Symptom Status	0.054	0.321	Insignificant	H_0: Do not reject
Sex and Number of Symptoms Reported	0.053	0.331	Insignificant	H_0: Do not reject
Sex and Hospitalization Status	-0.032	0.553	Insignificant	H_0: Do not reject

None of the variables listed in table 3 demonstrated a significant relationship to sex. This means that sex did not play a significant role in the travel or exposure history, symptoms status, number of symptoms reported, and hospitalization status of the respondents. This is contrary to the 2020 study of Womersely, Ripullone, Peters, & Woodward that revealed women to fare better than men in terms of diseases (COVID-19) severity and the chance of hospitalization.

Relationship between Client Category and Travel/Exposure History, Symptom Status, Number of Symptoms Reported, and Hospitalization Status

Table 4. *Client Category and selected variables*

Variables	*rs*	*p-value*	*Interpretation*	*Decision*
Client Category and Travel History / Exposure History	0.179**	0.001	Significant	H_0: Reject
Client Category and Symptom Status	0.235**	0.000	Significant	H_0: Reject
Client Category and Number of Symptoms Reported	0.298**	0.000	Significant	H_0: Reject
Client Category and Hospitalization Status	0.146**	0.007	Significant	H_0: Reject

The data in table 4 depicts that all the variables exhibit a low degree positive correlation to Client Category at 0.01 level of significance, rejecting the null hypothesis. This means that there is significant relationship between the client category of the respondents and their travel/exposure history, number of symptoms reported, and hospitalization status. Meanwhile, Symptom status demonstrated a moderate degree of positive relationship to client category. It can be attributed to the teaching and non-teaching personnel comprising the most number of cases in the Department of Education, Division of Bohol, and them having the need to physically report to the schools and offices as opposed to the learners who do not attend face-to-face classes.

Relationship between Travel History/Exposure History and Symptom Status, Number of Symptoms Reported, and Hospitalization Status

Table 5. *Travel/Exposure History and selected variables*

Variables	*rs*	*p-value*	*Interpretation*	*Decision*
Travel/Exposure History and Symptom Status	-0.044	0.422	Insignificant	H_0: Do not reject
Travel/Exposure History and Number of Symptoms Reported	-0.017	0.759	Insignificant	H_0: Do not reject
Travel/Exposure History and Hospitalization Status	0.161**	0.003	Significant	H_0: Reject

The above table 5 manifests that the Travel/Exposure History shows a low degree positive correlation to Hospitalization Status at the 0.01 level of significance that rejects the null hypothesis. This means that exposure to a confirmed case relative, being the primary source of exposure to COVID-19 infection among the respondents, plays a role in the hospitalization status. It can be suggested that the exposure to a confirmed case within the same household may increase the likelihood of being admitted in the hospital.

Relationship between Symptom Status and Hospitalization Status

Table 6. *Symptom Status and Hospitalization Status*

Variables	*rs*	*p-value*	*Interpretation*	*Decision*
Symptom Status and Hospitalization Status	0.168**	0.002	Significant	H_0: Reject

In the preceding table, table 6, Symptom Status produced a low degree positive correlation to Hospitalization Status at the 0.01 level of significance. This causes the rejection of the null hypothesis translating to a significant relationship between symptom status and hospitalization status. Despite symptoms to range from mild to critical and most patients with COVID-19 experiencing mild symptoms (Elhadi et al., 2020), it can be implied that the respondents who experienced symptoms were more likely, though to a low degree, to have been admitted in the hospital.

Conclusion

The verge of the pandemic and its continued onslaught can never be forgotten nor denied. And, quality and holistic education should be client-based most especially now in these pandemic times. On top client advocacy, the Department of Education, Division of Bohol and its stakeholders need to continue to focus on safeguarding the welfare of its workforce, its teaching and non-teaching personnel.

In view of this, this study entitled Incidence of COVID-19 and Profile of Cases of the Department of Education, Division of Bohol has gathered, analyzed and interpreted data that illustrated the occurrence of COVID-19 and the most affected population groups within DepEd Bohol. It has uncovered that teaching personnel are the ones most at risk of contracting the disease due to their involvement in reporting physically to work. Non-teaching personnel have also been found to be at higher risk of getting infected due to the nature of their work that involves frequent inter-zonal travel and face-to-face conferences. This is supported by the establishment of a significant relationship between age group, client category, and travel exposure to key variables such as symptom status, number of symptoms reported, and hospitalization status. It can be deduced that individuals of higher age groups and work classifications are exposed to a higher possibility of occupational person-to-person contact, hence, higher risk of contracting COVID-19.

Moreover, the data revealed that learners from both the elementary and secondary levels share a similar risk of being infected with COVID-19 despite the absence of face-to-face learning. This suggests that and supports the finding that the top-most source of infection exposure is the exposure to a confirmed case relative – be they an immediate family member or someone living in the same household or quarters. Further, the findings imply that the Coronavirus Organized Response and Education (CORE) Task Force and Mechanism proves potent in its implementation of the DepEd Bohol's COVID-19 response as reflected by the majority of confirmed cases being reported precisely and on time.

Based on the aforesaid findings and conclusions, the following recommendations are proposed: (1) The continued operation of the DepEd Bohol Coronavirus Organized Response and Education (CORE) Task Force and Mechanism, its enhancement and sustained mobilization. (2) For the findings of this study to enlighten key stakeholders by equipping them the hindsight of past events to better plan for future directions of the agency, the delivery of services to clientele, and the involvement of stakeholders. (3) That further studies be made already factoring in COVID-19 vaccination in the surveillance and investigation of confirmed cases within the DepEd. (4) Stringent regulation of face-to-face activities that involve inter-zonal travel of school personnel such as seminars, workshops, conferences through proper spacing of activities, the screening of allowing only fully vaccinated individuals to attend, and the foregoing of stay-in seminars for district and school personnel when not essential. (5) Advocacy for the COVID-19 vaccination of all eligible personnel and staff to further strengthen the thrusts of ending the pandemic. (6) Continued implementation of preventive measures particularly the Alternative Work Arrangement (AWA), masking, physical distancing, and hand hygiene in light of the persisting pandemic situation. (7) Monitoring and promotion of the welfare and health of teaching personnel as they are the ones most at risk of contracting COVID-19 in the field. (8) Continued health education on COVID-19 and its emerging variants of concern to inform and regularly update the knowledge of personnel, learners, parents, and other stakeholders. (9) Sustained COVID-19 prevention, surveillance, and mitigation at the Division, District, and School governance levels through the allocation of funds for relevant Programs, Projects, and Activities (PPAs), and the provision of Level 1 Personal Protective Equipment (PPEs) to personnel and clientele.

References

Abedi, V., Olulana, O., Avula, V., Chaudhary, D., Khan, A., Shahjouei, S., ... & Zand, R. (2021). Racial, economic, and health inequality and COVID-19 infection in the United States. Journal of racial and ethnic health disparities, 8(3), 732-742.

Adams, J. G., & Walls, R. M. (2020). Supporting the health care workforce during the COVID-19 global epidemic. Jama, 323(15), 1439-1440.

Al-Samarrai, S. (2020, May). THE IMPACT OF THE COVID-19 PANDEMIC ON EDUCATION FINANCING. Worldbank.org. Retrieved November 5, 2021, from https://bit.ly/300XRgo

Brady, E., Nielsen, M.W., Andersen, J.P., Oertelt-Prigione, S., (2021). Lack of consideration of sex and gender in COVID- 19 clinical studies. Nat Commun 12, 4015.

Burgess, S., & Sievertsen, H. H. (2020). Schools, skills, and learning: The impact of COVID-19 on education. VoxEu. Org, 1(2).

Burke, R. M., Midgley, C. M., Dratch, A., Fenstersheib, M., Haupt, T., Holshue, M., Ghinai, I., Jarashow, M. C., Lo, J., McPherson, T.

D., Rudman, S., Scott, S., Hall, A. J., Fry, A. M., & Rolfes, M. A. (2020).

Active Monitoring of Persons Exposed to Patients with Confirmed COVID-19 - United States, JanuaryFebruary 2020. MMWR. Morbidity and mortality weekly report, 69(9), 245–246.

Ceballos, R. (2021). COVID-19 Susceptibility, Mortality, and Length of hospitalization based on age-sex composition: Evidence from Davao Region Philippines. medRxiv.

Centers for Disease Control and Prevention. (2012, May 18). Lesson 3: Measures of Risk.

Centers for Disease Control and Prevention. (2012, May 18). Lesson 3: Measures of Risk.

Centers for Disease Control and Prevention. (2012, May 18). Lesson 3: Measures of Risk.

Centers for Disease Control and Prevention. (n.d.). Incidence Rate Example.

Chen, P. Z., Bobrovitz, N., Premji, Z. A., Koopmans, M., Fisman, D. N., & Gu, F. X. (2021). SARS-CoV-2 shedding dynamics across the respiratory tract, sex, and disease severity for adult and pediatric COVID-19. eLife, 10, e70458.

Cleveland Clinic. (2020, April 10). Coronavirus. Coronavirus disease (COVID-19).

Cleveland Clinic. (2021, September 29). Ageusia. Ageusia: Loss of sense of taste.

Cleveland Clinic. (2021, September 29). Anosmia. Anosmia: Loss of sense of smell.

Cleveland Clinic. (2021, September 29). Coronavirus. Coronavirus disease (COVID-19).

Corcino, R. B., Elnar, A. R. B., Maglasang, G. T., & Casas, K. P. S. (2021). Estimation, control and forecast of COVID-19 disease spread in Central Visayas, Philippines.

Department of Eduaction, Division of Bohol. (2020, September 1). Intensification of the DepEd Task Force COVID-19: The CORE Task Force. Division Memorandum No. 383, s. 2020.

Department of Education, Division of Bohol. (2020, January 30). Coronavirus Organized Response and Education (CORE). Division Memorandum No. 052, s. 2020.

Department of Education. (2020, April 7). Mechanism for the Reporting of PUMS, PUIs, and Confirmed Cases in DepEd. DepEd Task Force COVID-19 Memorandum No. 32

Department of Education. (2020, February 1). CREATION OF A TASK FORCE FOR THE MANAGEMENT OF THE DEPARTMENT OF EDUCATION RESPONSE TO NOVEL CORONAVIRUS ACUTE RESPIRATORY DISEASE. DepEd Memorandum No. 11, s. 2020.

Department of Education. (2020, March 19). MEASURES FOR CLOSE CONTACTS OF CONFIRMED CASES OF COVID-19, PUMs, AND PUIs FOR REGIONAL OFFICES, SCHOOLS DIVISION OFFICES, AND SCHOOLS. DepEd Task Force COVID-19 Memorandum No. 21.

Department of Health. (2020, September 30). WORKPLACE HANDBOOK On COVID-19 Management and Prevention. Department of Health Philippines.

Edmunds, W. J. (2020). Finding a path to reopen schools during the COVID-19 pandemic. The Lancet Child & Adolescent Health, 4(11), 796-797.

Elhadi, M., Msherghi, A., Alkeelani, M., Zorgani, A., Zaid, A., Alsuyihili, A., ... & Amshai, A. (2020). Assessment of healthcare workers' levels of preparedness and awareness regarding COVID-19 infection in low-resource settings. The American journal of tropical medicine and hygiene, 103(2), 828.

Fenton, L., Gribben, C., Caldwell, D., Colville, S., Bishop, J., Reid, M., ... & McAllister, D. A. (2021). Risk of hospitalisation with covid-19 among teachers compared to healthcare workers and other working-age adults. A nationwide case-control study. medRxiv.

Gao, S., Rao, J., Kang, Y., Liang, Y., Kruse, J., Dopfer, D., ... & Patz, J. A. (2020). Association of mobile phone location data indications of travel and stay-at-home mandates with COVID-19 infection rates in the US. JAMA network open, 3(9), e2020485-e2020485.

Griffith, D. M., Sharma, G., Holliday, C. S., Enyia, O. K., Valliere, M., Semlow, A. R., ... & Blumenthal, R. S. (2020). Men and COVID-19: a biopsychosocial approach to understanding sex differences in mortality and recommendations for practice and policy interventions. Preventing chronic disease, 17, E63.

Haw, N. J. L., Uy, J., Sy, K. T. L., & Abrigo, M. R. M. (2020). Epidemiological profile and transmission dynamics of COVID-19 in the Philippines. Epidemiology & Infection, 148.

Huggett, J., Dheda, K., Bustin, S., & Zumla, A. (2005). Real-time RT-PCR normalisation; strategies and considerations. Genes & Immunity, 6(4), 279-284.

Hyde, Z. (2020). COVID-19, children and schools: overlooked and at risk. Medical Journal of Australia, 213(10), 444-446.

Hyde, Z. (2020). COVID-19, children and schools: overlooked and at risk. Medical Journal of Australia, 213(10), 444-446.

International Atomic Energy Agency. (2021, July 6). How is the COVID-19 Virus Detected using Real Time RT-PCR? International Atomic Energy Agency. Retrieved November 12, 2021, from https://bit.ly/3qwR8FX

Lavado, R. F., Nowacka, K., Raitzer, D., van der Meulen Rodgers, Y., & Zveglich Jr, J. E. (2021). COVID-19 Disparities by Gender and Income: Evidence from the Philippines. International Labour Review.

Le, N. K., Le, A. V., Brooks, J. P., Khetpal, S., Liauw, D., Izurieta, R., & Reina Ortiz, M. (2020). Impact of government-imposed social distancing measures on COVID-19 morbidity and mortality around the world. Bull World Health Organ, 10.

LO, W. L. (n.d.). Governmental Public Health Powers During the COVID-19 Pandemic: Stay-at-home Orders, Business Closures, and Travel Restrictions.

Mak, P. Q., Chung, K. S., Wong, J. S. C., Shek, C. C., & Kwan, M. Y. W. (2020). Anosmia and ageusia: Not an uncommon presentation of COVID-19 infection in children and adolescents. The Pediatric infectious disease journal, 39(8), e199-e200.

Mallah, S. I., Ghorab, O. K., Al-Salmi, S., Abdellatif, O. S., Tharmaratnam, T., Iskandar, M. A., Sefen, J., Sidhu, P., Atallah, B., El-Lababidi, R., & Al-Qahtani, M. (2021). COVID-19: breaking

down a global health crisis. Annals of clinical microbiology and antimicrobials, 20(1), 35.

McCullough, P. A., Eidt, J., Rangaswami, J., Lerma, E., Tumlin, J., Wheelan, K., ... & Ronco, C. (2020). Urgent need for individual mobile phone and institutional reporting of at home, hospitalized, and intensive care unit cases of SARS-CoV-2 (COVID-19) infection. Reviews in cardiovascular medicine, 21(1), 1.

Medical News Today. (2019, November 20). What does it mean to feel malaise? Newsletter.

Menni, C., Valdes, A. M., Freidin, M. B., Sudre, C. H., Nguyen, L. H., Drew, D. A., ... & Spector, T. D. (2020). Real-time tracking of self-reported symptoms to predict potential COVID-19. Nature medicine, 26(7), 1037-1040.

Michaels, D., & Wagner, G. R. (2020). Occupational Safety and Health Administration (OSHA) and worker safety during the COVID-19 pandemic. Jama, 324(14), 1389-1390.

National Center for Biotechnology Information. (202). Epidemiological profile and transmission dynamics of COVID-19 in the Philippines. Epidemiology and infection.

Nehme, M., Braillard, O., Alcoba, G., Aebischer Perone, S., Courvoisier, D., Chappuis, F., ... & COVICARE TEAM†. (2021). COVID-19 symptoms: longitudinal evolution and persistence in outpatient settings. Annals of internal medicine, 174(5), 723-725.

Official Gazette of the Philippines. (2019). RA 11332 The Mandatory Reporting of Notifiable Diseases and Health Events of Public Health Concern Act.

Official Gazette of the Philippines. The Constitution of the Republic of the Philippines.

Petiprin, A. (2020). NEUMAN'S SYSTEMS MODEL. NURSING THEORY.

Petiprin, A. (2020). NIGHTINGALE'S ENVIRONMENT THEORY. NURSING THEORY.

Petiprin, A. (2020). PENDER'S HEALTH PROMOTION MODEL.

Philippine Statistics Authority. Incidence Rate (of a disease).

Pullen, M. F., Skipper, C. P., Hullsiek, K. H., Bangdiwala, A. S., Pastick, K. A., Okafor, E. C., ... & Boulware, D. R. (2020, July). Symptoms of COVID-19 outpatients in the United States. In Open forum infectious diseases (Vol. 7, No. 7, p. ofaa271). US: Oxford University Press.

Rozenfeld, Y., Beam, J., Maier, H., Haggerson, W., Boudreau, K., Carlson, J., & Medows, R. (2020). A model of disparities: risk factors associated with COVID-19 infection. International journal for equity in health, 19(1), 1-10.

Russell, B., Moss, C., Rigg, A., Hopkins, C., Papa, S., & Van Hemelrijck, M. (2020). Anosmia and ageusia are emerging as symptoms in patients with COVID-19: What does the current evidence say?. ecancermedicalscience, 14.

Sharun, M., Tiwari, R., Natesan, S., Yatoo, M. I., Malik, Y. S., & Dhama, K. (2020). International travel during the COVID-19 pandemic: implications and risks associated with 'travel bubbles', Journal of Travel Medicine, Volume 27, Issue 8.

Stein-Zamir, C., Abramson, N., Shoob, H., Libal, E., Bitan, M., Cardash, T., ... & Miskin, I. (2020). A large COVID-19 outbreak in a high school 10 days after schools' reopening, Israel, May 2020. Eurosurveillance, 25(29), 2001352.

Tabuñar, S. M. S., & Magsino, R. A. A. (2021). Clinical Profile and Outcome of Adult COVID-19-related Consults at the University of the Philippines-Philippine General Hospital Emergency Department. Acta Medica Philippina, 55(2).

Teo, A., Tan, R., & Prem, K. (2020). Concealment of Potential Exposure to COVID-19 and Its Impact on Outbreak Control: Lessons from the HIV Response. The American journal of tropical medicine and hygiene, 103(1), 35–37.

Teresa, M. (2020, December 31). Education goes on amid Covid-19 thru DepEd's continuity plan. Philippine News Agency.

Tria, J. (2020, June). The COVID-19 Pandemic through the Lens of Education in the Philippines: The New Normal. ResearchGate.

Triggle, C. R., Bansal, D., Ding, H., Islam, M. M., Farag, E., Hadi, H. A., & Sultan, A.A. (2021). A Comprehensive Review of Viral Characteristics, Transmission, Pathophysiology, Immune Response, and Management of SARS-CoV-2 and COVID-19 as a Basis for Controlling the Pandemic. Frontiers in immunology, 12, 631139."

Van Dyke, M. E., Mendoza, M. C., Li, W., Parker, E. M., Belay, B., Davis, E. M., ... & Clarke, K. E. (2021). Racial and ethnic disparities in COVID-19 incidence by age, sex, and period among persons aged< 25 years—16 US jurisdictions, January 1–December 31, 2020. Morbidity and Mortality Weekly Report, 70(11), 382.

Womersley, K., Ripullone, K., Peters, S. A., & Woodward, M. (2020). Covid-19: male disadvantage highlights the importance of sex disaggregated data. bmj, 370.

World Health Organization. (2021). Coronavirus disease (COVID-19).

World Health Organization. (2021). Naming the coronavirus disease (COVID-19) and the virus that causes it.

World Health Organization. (2021). Sustainable Development Goals (SDGs).

World Health Organization. (n.d.). Occupational health and safety for health workers in the context of COVID-19.

World Health Organization. (n.d.). Philippines Situation.

Zhu, Y., Wang, C., Dong, L., & Xiao, M. (2020). Home quarantine or centralized quarantine, which is more conducive to fighting COVID-19 pandemic?. Brain, behavior, and immunity, 87, 142.

Affiliations and Corresponding Information

Ralph Rey Supremo, RN
Department of Education
Division of Bohol - Philippines

Clinio Galviso, RN, MAN
Department of Education
Division of Bohol - Philippines