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**COMPLIANCE WITH STANDARD PRECAUTIONS IN INFECTION CONTROL
AMONG HEALTH CARE WORKERS**

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ABSTRACT

This study aims to determine the COMPLIANCE TO STANDARD PRECAUTIONS IN INFECTION CONTROL AMONG HEALTH CARE WORKERS.

The researcher aims to answer the following: What is the profile of the respondents in terms of the following: Socio-economic Factors and Hospital- related Factors? What is the extent of compliance to standard precautions of the respondents in Hand Hygiene, Use of Personal Protective Equipment, handling and disposing of sharps, and other practices? What are the problems encountered in implementing Standard Precautions I Infection Control? What Plan of Action can be given to improve the implementation of standard precautions in Infection Control?

This study uses Quantitative analysis to interpret respondents' profiles. Frequency and percentages were calculated to describe the socio-economic and hospital-related profile. Quantitative research on the extent of compliance of the respondents on standard precautions in infection control and the problems encountered in the implementation and its weighted mean will be used in describing the respondent's adherence to standard precautions.

Health care workers in the first district of Ilocos Sur are Highly Compliant with Standard Precautions in Infection Control. They comply with the known guidelines for Handwashing/ Handhygiene, handling and disposing of Sharps, use of Personal Protective Equipment, and other protective practices. The problems encountered by the respondents in implementing Standard Precautions in infection control are moderately serious, which means that the Institutions where they are employed are not complacent in implementing Standard Precautions in Infection Control. There is a significant difference in the level of compliance to Standard Precautions in Infection Control between Public

and Private Institutions in the First District of Ilocos Sur. The degree of compliance with infection control of the private institution is higher than that of the public institution because there is a significant difference as manifested in the mean ratings along Handwashing/ Hand Hygiene and Handling and disposing of Sharps, which is higher in Private institutions compared to Public Institutions.

Only the area of assignment of the two Hospital related profile of the health care worker respondents had a bearing on their level of compliance to standard precautions in infection control. When taken singly, respondents' age had a significant relationship to their adherence to standard precautions.

Chapter 1

INTRODUCTION

Background of the Study

Compliance with standard precaution guidelines and policies has been universally problematic for health care workers. The suboptimal practice of compliance with standard precautions attributed to lack of education, insufficient training, and vague course policies add to the identified causes of low compliance. The cornerstone of sustaining compliance with standard precautions depends on various factors that institutions should periodically appraise. Some barriers to adherence observed overseas include faulty equipment and facilities, difficulties in maneuvering equipment, stressful working conditions, and the belief that the practice of SP may cause interruptions with patient care and thus still a factor in adherence to Standard precautions. Achieving full compliance to these protocols is still challenging because health care workers and

institutions will still have lapses over time. Tailoring innovative approaches, such as improving hospital infrastructure, providing adequate personal protective equipment, and launching platforms on the importance of consistent SP practice for personal protection in times of emerging diseases is paramount.

When most health care workers/ practitioners start their everyday work and report to work, their thought is focused on the flawless provision of the best possible service and care to the Hospital and their patients. However, their safety is overlooked, with excess workloads leading to overworking in a single shift. Lack of reasonable care and foresight has been considered acceptable causes of disregard for their safety. Health Practitioners must always inculcate in their minds that their safety is of primary concern because if they disregard it, it will consequently impair them to provide efficient service to their patients. All Health care workers, regardless of the nature of their work, are exposed daily to a myriad of actual or potential hazards and should be hazard conscious at all times. Personal safety is necessary. To recognize hazards, applying Common sense, having a safety-focused attitude, good individual behavior, good housekeeping in all laboratory work and storage areas and the continual practice of good laboratory technique is needed. (Bishop et al., 2010)

According to Amoran and Unwube (2013), healthcare workers (HCWs) are at immediate risk of exposure to blood and other bodily fluids during their job. Consequently, they are at risk of infection of blood borne viruses, including hepatitis B virus (HBV), hepatitis C virus (HCV), human immunodeficiency virus (HIV), and other Occupational exposure hazards. Needle stick injury (NSI) is the most common form of occupational exposure to bodily fluids, which can result in acquiring healthcare-associated infections (HAIs). It is considered a severe problem in healthcare services as

they are common causes of illness and mortality among hospitalized patients and healthcare workers.

Per Sadoh et al. (2006), Healthcare workers (HCWs) are at risk of occupational hazards in the performance of their clinical activities. All Healthcare workers are exposed daily to potentially life-threatening that will jeopardize their health and affect their quality of life. In developing countries, HIV accounted for the highest prevalence of infections from needle stick injuries as it is the most common occupational health hazard reported worldwide. Hepatitis C is quite common and can develop into a chronic liver infection. Those infected are at risk for cirrhosis and liver cancer.

Infection is the body's response to the entry of disease-producing microbes. Bacteria, fungi, viruses, and even parasites can cause pathologic infections; all may be contracted directly from an infected person, contaminated equipment, airborne droplet nuclei, infested reservoir, or spread via food and water. Personal cleanliness and understanding of Hospital Safety Protocols are paramount to preventing the spread of infection.

Healthcare-associated infection (HCAI) – also referred to as nosocomial infection – is defined as "an infection occurring in a patient during the process of care in a hospital or other healthcare facility that was not present or incubating at the time of admission. It includes infections acquired in the hospital but appearing after discharge and occupational conditions among the staff of the facility occurrence of this infection corroborates healthcare delivery and that it may result, although not always, as a consequence of the failure of healthcare systems and processes as well as of human behavior. Therefore, it represents a significant patient safety problem

Public Law 91-596, better known as the Occupational Safety and Health Act (OSHA), was enacted by the U.S. Congress in 1970. This federal regulation was to provide all employees (clinical laboratory personnel included) with a safe work environment. Under this legislation, the Occupational Safety and Health Administration (also known as OSHA) is authorized to conduct on-site inspections to determine whether an employer complies with the mandatory standards.

The *universal precautions* concept is essentially dealing with infection control that presumes that all human blood, tissue, and most fluids treated as if known to be infectious for the human immunodeficiency virus (HIV), hepatitis B virus (HBV), and other bloodborne pathogens. This concept embraces expansive practices in Infection control and is fundamentally a way of life, as per Ndu et al. (2017). According to Asmr et al. (2019), The world health organization (WHO) estimated at least 35 million health care workers worldwide with 2 million HCWS were exposed to HBV, 0.9 million to HCV, and 170,000 to HIV. Nurses are highly susceptible to microorganisms during their daily practice due to their frequent close contact with patients.

A significant risk factor for transmitting bloodborne infections is occupational exposure to blood and body fluids to healthcare workers (HCWs). In most cases, exposures occur through mucocutaneous injury and percutaneous injury to non-intact skin. A review by Tavoschi et al. (2017) in the European Union/European Economic Area also indicates high levels of HBV and HCV infection among health care workers, with most being higher than in the general population. The most common exposure site to be infected is the mucosa, where injury affecting the conjunctiva of HCWs, and the mucosa of the mouth and nose are prevalent. Prevalence studies also have revealed that a high level of splashes of fluids is inevitable in institutions with low-income settings. In Sub-Saharan Africa, HCWs are at substantial risk of infection from bloodborne

pathogens because of the excessive prevalence of such bloodborne diseases in the general population (Sahiledengle et al., 2020). Universal precautions do not apply to other bodily fluids such as sputum, feces, sweat, vomit, tears, urine, or nasal secretions unless they are visibly contaminated with blood because their transmission of Hepatitis B or HIV is extremely low or non-existent. In 1987, the CDC introduced another set of guidelines termed Body Substance Isolation which promotes avoiding direct physical contact with "all moist and potentially infectious body substances," even if blood is not visible. However, the limitation of its guidelines emphasized handwashing after removing gloves should only be done if the hands are visibly soiled. In 1996, the CDC Guideline for Isolation Precautions in Hospitals, prepared by the Healthcare Infection Control Practices Advisory Committee (HICPAC), condensed the significant features of Universal Precautions and Body Substance Isolation, now referred to as Standard Precautions. These guidelines also introduced three transmission-based precautions: airborne, droplet, and contact. All transmission-based precautions are used in conjunction with standard precautions.

Needlestick injuries (NSI) put a significant risk to hospital personnel caused by a needle head or a piece of broken ampule or any other sharp object contaminated with blood or body secretions. NSIs are economically burdensome and estimated to be \$302 million in Japan. Yearly, the incidence of NSI estimating at 20.5 per 1000 nurses and 16 per 1000 physicians in Poland. Gheshlagh et al. (2007) showed that the prevalence of needle head injury among healthcare personnel is higher in females than males (47 vs. 42%). Excessive and unnecessary injections, poor personnel training, female gender, increased workloads, and extreme fatigue, especially at nighttime, are among the important causes of NSI identified by studies. Many NSIs are a source of infections due to fear of reporting staff and lack of proper awareness (Hassanipour et al., 2021).

Moreover, Suboptimal compliance with standard precautions leads to non-adherence among doctors and nurses associated with suboptimal knowledge, excessive workload, forgetfulness, workplace safety climate, and the insight colleagues also failed to follow. Adherence is implied by considering precautions to protect oneself from exposure and injury. The availability of supplies and awareness programs for these standard precautions are vital among the many suggestions for better compliance. Establishing an incumbent practice of Standard/Universal precautions is indispensable to protect Health Care Workers by utilizing combinations of Safe work practices, systematic procedures, and standardized equipment. Introducing updates and modifications based on levels of exposure should be integral among hospitals to ensure the adequacy and relevance of standard precautions. To improve the well-being of HCWs, especially nurses, who are at risk of infection through occupational exposure in different healthcare settings than the general population in the community. However, HCWs are at higher risk of becoming infected themselves, which could lead to a more significant challenge for epidemic control leading to the collapse of the healthcare system (Wong et al., 2021). Institution infection control measures should be reviewed time and again as the World Health Organization recommended in the progression of the Pandemic.

In the study conducted by Broussard et al. (2020), they stated that Universal precautions were introduced by the Centers for Disease Control (CDC) in 1985 to respond to the increasing hospital-acquired infections epidemic.

Health Care workers are knowingly or unknowingly in frequent contact with potentially biohazardous materials because of an apparent lack of cognizance of epidemiology, transmission, and mechanisms of common diseases. As for the Laboratory scientists, they should not be indiscriminate in handling specimens because of the continuously increasing number of infectious samples received in the laboratory.

Therefore, we should take specimens obtained from patients with confirmed, suspected STIs or other potentially contagious diseases no differently than other routine specimens.

According to Morlaejo et al. (2018), for centuries, healthcare providers, organizations, and governments have been deeply concerned about the spread of infection; hence they are focused on mitigating the spread of illnesses across the community and all settings. Previously used guidelines utilized various strategies and conditions to which they were applied and spontaneously applied in all locations.

Standard Precautions guidelines reduce the potential for transfer of microorganisms from one person to another, whether or not a patient is symptomatic. Thus, we should take Specific transmission-based precautions precariously because we cannot assume when an individual is infected. Three transmission-based precautions categories were identified: airborne, contact, and droplet. Therefore, additional strategies of Standard Precautions shall be designed and employed at a specific condition.

According to the investigation of Lou et al. (2010), standard precautions training and knowledge, hospital grade, presence of a sharps disposal box in the department, general self-efficacy, exposure to patients, and the department in which the nurse works are some of the barriers affecting compliance with the standard precautions.

Standard precaution, infection control, and prevention guidelines are indispensable in diminishing cross-transmission among healthcare workers and patients. HCWs should not tolerate Suboptimal compliance and poor understanding of control guidelines because of the threat of emerging diseases, as evidenced by the Covid-19 pandemic. Also, it is worth noting that workplace dissatisfaction and inadequate support negatively impact workers' well-being. Empowering workers to adhere to workplace policy that involves infection control will make them feel that the institution where they

are employed values and protects them. Creating new strategies and interventions to strengthen workplace policy in healthcare settings shall be periodically attempted by institutions to increase the sustainability of the healthcare system for handling new challenges.

In the study by Esu et al. (2019), they concluded that The level of knowledge of SPs among healthcare workers was good. Still, it did not directly translate to good compliance with standard precautions. Type/level of Health facilities is a determinant of HCW's Compliance with SPs, i.e., HCWs working in Primary health facilities were three times less like to be compliant with SPs than those in Tertiary health facilities. The timely development of policies and guidelines on infection control influences the reduction of HAIs. An Authorized Body accredited by a state shall oversee strict implementation of these policies at all levels of health care, mainly primary health care. There is a need to build the capacity of health workers on standard precautions by Hospital Institutions through regular training and workshop attendance. Management of Health facilities should ensure the availability of practical personal protection equipment to enhance compliance with SPs by healthcare workers and thus reduce the occurrence of hospital-acquired infections among patients and the prevalence of blood-borne pathogens among healthcare workers. Furthermore, functional infection control committees should conduct regular training on infection prevention and control and ensure constant availability of essential commodities that will aid compliance.

According to Siegel et al. (2007), Hand Hygiene has been considered an essential practice in reducing the transmission of infectious agents. The term "hand hygiene" includes handwashing with either plain or antiseptic-containing soap and water and alcohol-based products (gels, rinses, foams) that do not require water. recognized alcohol-based products for hand disinfection are preferred over antimicrobial or plain

soap and water because of their superior microbiocidal activity, reduced drying of the skin, and convenience when hands are not visibly soiled. Improved hand hygiene practices decreased the incidence of MRSA and VRE infections, primarily in ICUs.

The type and length of fingernails can reduce the effectiveness of hand hygiene. Individuals wearing artificial nails harbor more pathogenic organisms, especially gram-negative bacilli and yeasts, on the nails and in the subungual area than individuals with native nails. There is less evidence indicating that jewelry affects the quality of hand hygiene. Although hand contamination with potential pathogens with ring-wearing, no studies have related this practice to HCW-to-patient transmission of pathogens.

Boyce and Pittet (2002) documented that in cohort studies conducted HCWs washed their hands an average of five times per shift to as many as 30 times per shift; sure, nurses washed their hands <100 times per shift. Hospital-wide hand hygiene surveillance reveals that the average number of handwashing opportunities varies markedly between hospital wards. In observational studies, the duration of handwashing or hygienic hand wash episodes by HCWs has averaged 6.6–24.0 seconds. Factors that may influence hand hygiene include those identified in epidemiologic studies and factors reported by HCWs as reasons for poor adherence to hand-hygiene recommendations. Risk factors for insufficient commitment to hand hygiene have been determined objectively in several observational studies or interventions to improve compliance. Among these, being a physician or a nursing assistant rather than a nurse was consistently associated with reduced adherence.

Perceived barriers to adherence with hand-hygiene practice include skin irritation by hand hygiene agents, inaccessible hand-hygiene supplies, interference with HCW-patient relationships, forgetfulness, lack of knowledge of the guidelines, insufficient time for hand hygiene, high workload and understaffing, and the lack of scientific information

indicating a definitive impact of improved hand hygiene on healthcare-associated infection rates.

Lack of knowledge of guidelines for hand hygiene, recognition of hand-hygiene opportunities during patient care, and awareness of the risk of cross-transmission of pathogens are barriers to good hand-hygiene practices. Perceived obstacles to hand-hygiene behavior are linked not only to the institution but also to HCWs' colleagues. Therefore, institutional and small-group dynamics must be considered when implementing a system change to secure an improvement in HCWs' hand-hygiene practice.

Hand hygiene promotion and education have been challenging to the healthcare system over the years and certainly impacted infection control. It is worth noting that strategies require education, motivation, and a change of approach to increase adherence rates and continued practice. Specific methods on epidemiologic evidence, others on the authors' and other investigators' experience, and a review of current knowledge are important. Some strategies may be unnecessary in certain circumstances but may be helpful in others.

In the study of Boyce et al. (2013), they stated that new information is available regarding the efficacy of various formulations of alcohol-based hand rub products currently on the market. They conducted test comparisons for the effectiveness and comparisons of the formulations. The new formulations also met ASTM requirements when tested using a more realistic 2-mL product application. Interestingly, the other commercial alcohol-based hand rub products and WHO-recommended formulations failed to meet ASTM requirements using a 2-mL application. Another important finding of the study was that product performance did not correlate with alcohol concentration (ie, increasing alcohol concentrations did not necessarily increase in vivo efficacy). More

so, in the study conducted by Maltezou et al. (2012), they made recommendations for hand hygiene by the European Network for Highly Infectious Diseases, including Optimum and *Minimum requirements*.

(Suchitra, 2007), the barriers to practicing hand hygiene was attributed to lack of education, high workload, predominantly when the ward was occupied to its total capacity, understaffing, working in the critical care units, lack of encouragement, and lack of a role model among senior staff. Also, some of the barriers perceived were the lack of knowledge and experience, lack of understanding of guidelines set by the institution, or being a refractory non-complier.

In the study conducted by Okechukwu et al. (2012), they postulated that most respondents reported that they wore disposable materials made of plastic likely to generate splashes of blood or body fluid. Few respondents said the lack of supplies caused inconsistent use of ppe. To reiterate, the non-availability of masks and eye protector as the reason for irregular use of these personal protective equipment by the respondents.

Siegel et al. (2017) defined PPE as refers to various barriers and respirators used singly or combined to protect membranes, airways, skin, and clothing from contact with infectious agents. HCWs should consider the Choice of PPE at all times based on the nature of the patient interaction and the likely mode(s) of transmission.

The body parts most frequently subject to injury in the clinical laboratory are the eyes, skin, and respiratory and digestive tracts. Hence, the use of PPE is essential. Safety glasses, goggles, visors, or work shields protect the eyes and face from splashes and regulate impact. Contact lenses do not offer eye protection; it shall not wear it in the clinical chemistry laboratory. If any solution is splashed into the eye(s), thorough irrigation is required (Bishop et al., 2010)

In light of the Covid-19 Pandemic, Ortega et al. (2020) state that the threat of coronavirus disease 2019 has prompted Hospital institutions to use extreme precautions to mitigate its spread by emphasizing proper PPE to combat the spread of Covid-19. SARS-CoV-2, which causes Covid-19 disease, is spread via direct contact — that is, contact with the respiratory droplets and aerosols from an infected person — and indirect contacts, such as contact with contaminated surfaces or supplies. Protection against exposure to SARS-CoV-2 includes both standard and transmission-based precautions. The PPE used to prevent exposure includes: gloves, a gown, a respirator with a rating of N95 or higher, and a full face shield or goggles. When respirators are not available, face masks are an acceptable alternative.

In addition to other infection control measures, consistent use of full-body personal protective equipment (PPE) can diminish the risk of infection for healthcare workers (HCW). EN (European) and ISO (international) standards for protective clothing and fabric permeability for viruses help determine which PPE should technically protect sufficiently against highly infectious diseases. Covering more body parts leads to better protection but usually comes at the cost of more difficult donning (putting on) or doffing (taking off) and user comfort and may lead to more contamination.

For different procedures of donning and doffing, there is very low-certainty evidence that double gloves, as part of PPE and following Centers for Disease Control and Prevention (CDC) guidelines, may reduce the risk of contamination. Extra disinfection of gloves with bleach or quaternary ammonium may decrease hand contamination but not alcohol-based hand rub (Veervek et al., 2020)

Reddy et al. (2019) mentioned in their study that every day, people unconsciously harbor pathogens that will cause various diseases, including healthcare personnel (HCP). Patients in healthcare settings are more susceptible to acquiring diseases because of close

contact during patient care. Unrecognized pathogens transmission can lead to patients' colonization and infection and HCP infection. Personal protective equipment (PPE) is vital in infection control strategies to protect HCP. It prevents infections in the individual HCP and secondary spread to other HCP and patients. Understanding how contamination can happen is essential for improving PPE and infection control practices. Although with much improvement, there are still gaps in the consistent and proper use of PPE. Infected patients require intensive medical attention as elimination of the infectious disease is impossible across health facilities. Administrative and engineering controls are both crucial in mitigating the spread of diseases. That is why these should not be overlooked. Because other control solutions cannot eliminate the risk of exposure to infectious diseases in healthcare settings, PPE remains an essential tool in a comprehensive strategy for preventing the transmission of pathogens from patients to HCP. Failure to use PPE, PPE malfunction, incorrect use of PPE, and self-contamination during care and in the doffing process are inevitable causes of contamination. When immediate health consequences of contamination are not apparent for either patients or HCP, HCP may not recognize the importance of work practices, including correct and consistent PPE use.

All healthcare settings can benefit from improvements in PPE use and design. Post-acute care settings, such as nursing homes and high-acuity skilled nursing facilities, have high rates of multidrug-resistant organism (MDRO) colonization and transmission that can affect the regional control of MDROs. Due to the higher prevalence of MDRO colonization, patient care workflow processes, communal living, and other factors, these settings need tailored approaches to prevent transmission, including strategies such as using PPE based on resident risk factors rather than pathogen-specific indications.

In summary, PPE is essential in preventing pathogen transmission in healthcare settings. Still, its optimal design and use need to be informed by dedicated research to achieve the reliability and effectiveness required to protect patients and HCP.

Gloves to combat the spread of diseases are practical, as confirmed by scientific studies. However, healthcare workers should incessantly notify that gloves do not provide complete protection against hand contamination. The significance of wearing gloves on adherence to hand hygiene policies has not been definitively established since published studies have yielded contradictory results. However, the recommendation to wear gloves during an entire episode of care for a patient who requires contact precautions, without considering indications for their removal, such as an indication for hand hygiene, could lead to the transmission of germs.

The unnecessary and incorrect use of gloves results in a waste of resources and may increase the risk of germ transmission. Hospitals should train HCWs to perform procedures per a rational sequence of events and to use non-touch techniques as much as possible to lessen the need for glove use and change. Masks are essential when used concurrently with other personal protective equipment such as face shields, goggles, and goggles to provide complete protection for the face and other body parts. Masks should not be used as an alternative with particulate respirators to prevent inhaling small particles that may contain infectious agents transmitted through the airborne route, as described. The mucous membranes of the head are susceptible portals of entry for infectious agents; other skin surfaces also may be portals if skin integrity is compromised (, e.g., acne, dermatitis). Thus, using PPE to protect these body sites is an essential component of Standard Precautions. Wear face masks, eye protection, and face shields shall be required in specified circumstances when blood or body fluid exposure is likely to be anticipated. In the study conducted by Conly et al. (2020), they cited that a person,

when in close contact with someone who has respiratory symptoms, is susceptible to being exposed to infective respiratory droplets. Moreover, droplet transmission may produce fomites on any surface in the immediate environment around the infected person. Airborne transmission, referred to as the presence of microbes within droplet nuclei may be passed to others over long distances, such as the measles virus. However, it is vital to acknowledge that in the performance of medical care, aerosolized particles known as "opportunistic" airborne transmission and airborne precautions are appropriate for these settings.

HCWs must utilize PPE during medical services with attention to detail and use personal protective equipment precisely. This involves properly selecting PPE and being trained to use it without correctly self-contaminating oneself in the process.

Isolation gowns are used as specified by standard and Transmission-Based Precautions to protect the HCWs, prevent them from being exposed, and prevent contamination of clothing with blood, body fluids, and other potentially infectious material. The selection of isolation gowns should be according to the nature and degree of patient interaction.

The eye protection must be appropriately chosen for specific work situations depending on the exposure circumstances, other PPE used, and personal vision needs. Personal eyeglasses and contact lenses is not adequate eye protection. A health care facility may need to appropriately provide varying types, styles, and sizes of eye protection equipment. Although effective as eye protection, goggles do not adequately cover other parts of the face thus, there is a need to underscore the importance of other essential PPE. The need to protect body parts that house mucous membranes is important even if Droplet Precautions are not recommended for a specific respiratory tract

pathogen. Disposable or nondisposable face shields may be used as an alternative to goggles. Compared with goggles, a face shield can protect other facial areas besides the eyes. Face shields extending from the chin to the crown provide better face and eye protection from splashes and sprays; face shields that wrap around the sides may reduce splashes around the shield's edge. Removal of a face shield, goggles, and mask can be performed safely after removing gloves and hand hygiene.

Per Roberge, 2016, cited in his study that Healthcare workers' faces have been reported to be the body part most commonly contaminated by splashes, sprays, and bodily fluids. A face shield is classified as personal protective equipment (PPE) that provides barrier protection to the facial area and related mucous membranes (eyes, nose, lips). A face shield offers several potential advantages, as well as some disadvantages, compared with other forms of face/eye protection used in healthcare and related fields. Face shields will be used to protect the facial area and associated mucous membranes from airborne body fluids . In as much as there are currently unavailable standards for face/eye protection against biological hazards, and research data is scant, recommendations for the proper selection of face shields for infection control must rely on currently available knowledge, the task to be performed, and the anticipated risk associated with the procedure. Furthermore, he concluded in his study that Face shields are PPE that are commonly used as barrier protection for infection control purposes by numerous workers. There currently is no standard regarding face/eye protection from biological hazards and this deficit needs to be remedied as quickly as possible.

With recent studies on Compliance with SPs, the Experience with needlestick or sharps injuries and experiences in the surgical department was parallel to the level of Compliance to standard precautions. General comparisons based from qualitative studies that examined nursing students found that their attitude, negative role models,

classroom and in-field gaps, blind spots, psychological barriers, physical barriers, lack of information and various intentions were factors that affect Compliance with SPs. Further, a study with nurses found that the existence of sharps disposal boxes within the department, general self-efficacy, exposure experiences, and working department also affected Compliance with SPs

In the study of King et al. (2021), Attention to needlestick injuries has made people aware of its detrimental effects most especially when HIV was identified in the early 1980's. However, today the primary concern after a needlestick injury is not HIV but hepatitis B or hepatitis C. Needlestick injuries are an occupational hazard that affects millions of healthcare workers. Healthcare professionals have the highest risk for needlestick injuries. The use of needles is inevitable in healthcare, prompting every hospital to design guidelines on proper handling and disposal of needles. With the advent of newer innovations in needle designs, needlestick injuries occur more often in healthcare professionals like surgeons and emergency room personnel. Before, the majority of needlestick injuries occurred during the covering of the needle after withdrawal of blood from a patient. However, institutional workers such as cleaners and porters often experience needle stick injuries from unsheathed needles, albeit resheathing needles is not recommended. Needle stick injuries are a traumatic experience among those who share them. accountability in the workplace should also be valued. Even most of the time, individuals never develop any infection. There is always still a possibility of acquiring a potentially severe disease like HIV or hepatitis C. The healthcare worker has to consult with various physicians, and repeated blood work is indicated for them, which also creates more stress.

Infectious waste is produced from the hospitals during the diagnosis, immunization, surgical procedures, and treatment of patients. It can transmit the

infections to the hospital staff, attendants, and the nearby public. Infectious waste comprises 10-25% of all the waste produced in hospitals, which cannot be disposed of with normal domestic waste. However, this is a common observation in many hospitals in developing countries. Infectious waste includes body fluids or secretions, contaminated sharp objects, biological laboratory waste, pathological waste, single-use disposable equipment, utensils, and instruments soiled with potentially infectious agents. Infectious waste generation rates typically depend on the size of the hospital, number of patients coming to that particular facility, number of beds available, segregation steps, and kind of care provided to the patients.

Sterilization and decontamination processes are complex and demand specific engineering and equipment controls. These processes need to be done correctly and precisely. Thereby, quality control procedures are of utmost importance to assess the correct functioning of the equipment. Most common HAIs caused by harmful device reuse practices or inadequate sterilization/decontamination procedures are surgical site infections (SSI), hepatitis B and C, HIV infection, urinary and vascular catheter associated infections, and ventilator-associated infection.

More so, in the study by Maltezou et al. (2012), they recommended routine hygiene and decontamination by the European Network for Highly Infectious Diseases. The suggested minimum requirements include an isolation room that should be designed to facilitate routine hygiene and decontamination procedures. Decontamination should be one of the principal factors for selecting equipment and medical devices in these facilities. Spillages of blood and other biological material should be immediately removed and decontaminated.

Minimum requirements include written procedures for routine hygiene procedures, and final disinfection should be in place, including other areas (e.g., emergency and diagnostic departments). Written protocols about procedures for regular hygiene, final disinfection or safe discarding of nondisposable items/devices/instruments should also be in place.

In the study of Hassan et al. (2017), it was revealed in their study that knowledge and Compliance of SPs among undergraduate nursing students can be improved by instruction provided in a virtual setting to accommodate isolated individuals. A rigorous curriculum will always continually progress the reduction and prevention HAIs thus, university curriculums should have accredited accordingly to improve learning outcomes in hospital practicums continuously. Organizations that oversee nursing programs in developing countries are themselves developing and reaching higher goals. These findings offer proof of concept for the utility of a freestanding online infection control curriculum that could mandate nursing programs and as continuing education for nurses in practice. Thus, infection control is not just an issue of individual approach, it is also relevant to policy at national levels. A coherent policy to mandate infection control training by the Hospitals encompassing all profession can evoke a trickle-down effect on other domains, health care agencies, and national and international health care outcomes.

Haile et al. (2017) stated that Compliance with SPs among the HCWs of Gondar University Comprehensive Specialized Hospital is deficient. As a female healthcare worker, a higher perception of infection risk, accessibility of personal protective equipment, training on infection prevention, and management support were significantly associated with Compliance of SPs. Training of HCWs on SPs, fulfilling infection prevention materials and equipment, and consistent and strong management support are recommended. HCWs who did not have readily accessible personal protective equipment

were less likely to always comply with SPs than those with readily accessible personal protective equipment. This finding could be explained by the fact that almost all SPs require personal protective equipment that must be accessible at the point of use. On the other hand, unless a healthcare worker has a favorable attitude towards complying with SPs, they might take the absence of specific modalities and equipment as an advantage not to practice recommended guidelines. Moreover, frequent inaccessibility of personal protective equipment could decrease the motivation of previously energetic staff and could be a reason for noncompliance.

Bekele et al.(2020) stated in their study that Compliance with standard safety precautions requires special attention due to the risk posed by the presence of infectious pathogens that cause a severe negative impact on the Health of patients, visitors, attendants, and healthcare workers. Factors such as healthcare workers being female, married, accessibility of safety boxes, availability of running tap water, participation in a training program and health facility providing training upon hire, and internal infection prevention and supportive control supervision were independent predictors of Compliance with standard safety precautions. Furthermore, they concluded in their study that the overall level of Compliance with standard safety precautions among healthcare workers is deficient.

In the study of Al-Fouri et al. 2021, they concluded that there was a positive correlation between the level of knowledge and the level of Compliance with standard precautions, and the factors that affected this Compliance were: knowledge, age, and clinical experience. Therefore, every healthcare facility must arrange training sessions for all nurses and other healthcare providers to improve their knowledge and improve the level of Compliance. Furthermore, Regarding participants' Compliance with SPs, there were no differences in sex, age, nursing year, experience with body fluids during

practical training, contracting an infectious disease, or infection management education experience. However, those with practical experience in surgical and pediatric departments showed significantly higher compliance rates compared to their counterparts (Moon et al., 2019)

According to Haile et al. (2017), they canvassed that female HCWs were more likely to always comply with SPs as compared to male HCWs. The female HCWs' better Compliance might be due to a natural tendency of female workers to conform to organizational rules and regulations. Most often, females are cautious of getting infections by their instinctive nature. Moreover, HCWs with a higher perception of infection risk were more likely to always comply with standard precautions than those with a lower perception of risk. They implied that their findings could be explained by the fact that whenever HCWs have an increased perception of exposure to infection, their adherence to preventive guidelines would increase.

Esu et al. (2019) assessed the Various factors affecting Compliance with SPs extensively. It was found that years of working experience were significantly associated with Compliance with SPs; healthcare workers who have worked for more than ten years were more likely to comply with SPs. Moreover, the outcome contrasts with the result from a study conducted in America that the rate of Compliance with universal precautions by participants does not have parallel Compliance to Compliance in standard precautions with increased years in the service. Also, it was posited in this study based on statistical results that at a 5% level of significance, Compliance was found to be significantly associated with health care workers' years of working experience (0.040) and type of health facility (0.022). Hence healthcare workers with more than 10 years of working experience had a significantly higher proportion (85.5%) of Compliance with SPs than those with 10 years or less working experience.

Per Jawaid (2009), educational symposiums and in-house training will enrich Compliance with standard precautions. Short-duration educational programs will amend suboptimal adherence among those who do not practice direct patient care and will give a significant improvement of almost 50% projected improvement in Compliance with the standard precautions. Although not commonly observed among physicians, the inadequacy of Compliance can still be seen; that is why Institutions need to ensure better Compliance, like the provision of required modalities. Excessive patient care workload also affects the Compliance to some extent which also needs to be looked into.

Haile et al (2017) cited in their study that HCWs who participated in infection control training are more likely to comply compared to HCWs who do not have training on this particular practice. Up-to-date guidelines could improve the knowledge and skill of HCWs in that they would easily understand fundamental principles, recommendations, and standards of practice which will eventually enhance their Compliance.

The type of health facility is a factor that impacts the Compliance of health care workers in infection control. The longevity of the HCW in a hospital setting equates to a more compliant nature attributed to more experience and more training regarding standard precautions in Infection Control, seniority in the workplace encompasses transformational growth in realizing hospital policies. Senior workers are more likely to be given managerial positions relative to their experience. The availability of commodities/ consumables for standard precautions and the availability of resources to set up infection control committee and to hold regular training and sensitization for healthcare workers on standard precautions is one of the advantages in tertiary hospitals compared to secondary and primary health facilities. The findings in this study is similar to what was found in a survey carried out in India, where good Compliance with SPs was associated with being in the job for a longer period. The knowledge of blood-borne

pathogen transmission, perceiving fewer barriers to safe practice, and a solid commitment to workplace safety climate. (Kermode et al., 2005)

Research Paradigm

Basing on the stated parameters of the study, the research paradigm is shown in Figure 1.

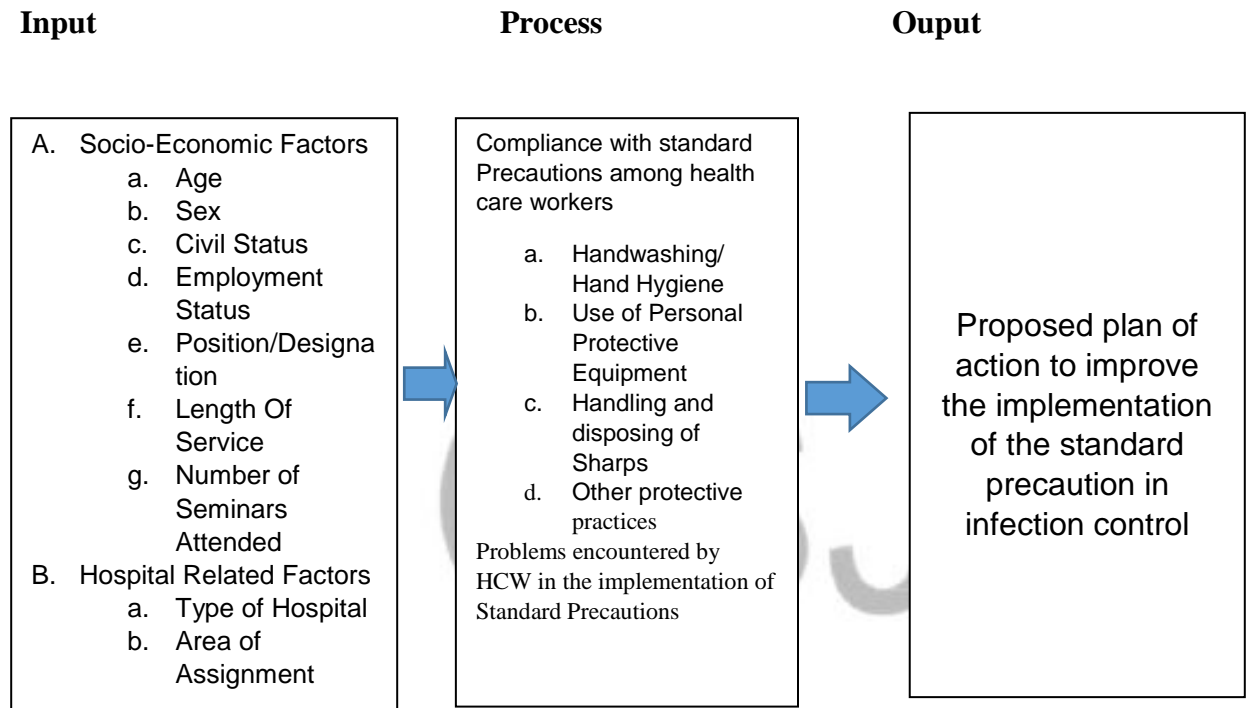


Figure 1. Conceptual Framework

The research paradigm provides the researcher with a comprehensive and systematic guide to seeking answers to the problems of the study. Moreover, it shows the respondents' compliance to standard precautions in terms of handwashing/ hand hygiene, use of personal protective equipment, and handling and disposing of sharps. Other protective practices can be influenced by their socio-demographic profile such as age, sex, civil status, employment status, positions/designation, length of service, number of seminars attended, and Hospital-related factors. The Proposed plan of action to improve the implementation of the standard precaution in infection control as presented in

problem no. 6 of his study is the output of this study and will be recommended to the participating institutions

This study aimed to determine whether health workers were concerned about Universal Standard Precautions as a measure to mitigate Infection and to assess whether they cautiously commit themselves to the practice of Standard precautions in their daily duties in their Institutions. The study also explored the association between compliance, views on infection prevention and control practices, and health practitioners' characteristics. The findings are essential to inform strategies and interventions needed to strengthen workplace policy in healthcare settings and sustain the capacity of a healthcare system to combat the spread of Infection. This study aimed to inspect problems in infection control's discontinued and degenerate practice and understand what led healthcare workers to neglect it.

The result of the study served as foundations for Health Care workers of the different Institutions and Hospitals in adherence to Standard Precautions. Primarily it should serve as a guide for newly Hired Medical Health Care workers and even Interns and Student Affiliates on the importance of complying with the standard precautions to safeguard not only the patients but themselves being the provider of care and service to their clientele. As the risk for potential Infection and exposure to Diseases perpetuates for Health Care providers, it is indispensable that we protect them. Despite the developing knowledge on the acquisition of Infection and mechanisms to prevent these infections, Health Care workers are not as compliant with Universal and Standard Precautions as they have to be. This study intended to amplify Health Care worker's/practitioners awareness on the risks that may arise in non-compliance with the standard precautions. Hence, it hoped to assist in reminding Health Institutions to enforce extensive education and motivational programs regarding Universal/ standard precautions, synthesize

additional policies on a strict adherence and observance with compliance, implement routine monitoring and check-up, and impose potential penalties for professionals who do not comply will be necessarily brought to compliance rate to acceptable levels.

Statement of the Problem

This study aims to assess the compliance of the health care workers with standard precautions as an infection control measure of Health Care Workers in Selected hospitals in first District of Ilocos Sur.

Specifically, it seeks to answer to the following questions:

1. What is the profile of the respondents in terms of the following:
 - A. Socio-economic Factors
 - a. Age,
 - b. gender,
 - c. Civil status,
 - d. Highest educational attainment
 - e. Employment status,
 - f. Position/designation,
 - g. Length of service, and
 - h. Number of seminars attended relevant to infection control for the past two years,
 - B. Hospital- related Factors
 - a. Type of Hospital and
 - b. Area of assignment?
2. What is the extent of compliance with standard precautions of the respondent along?

- a. Handwashing/Hand Hygiene;
 - b. Use of Personal Protective Equipment;
 - c. Handling and disposing of Sharps, and
 - d. Other Protective Practices?
3. What are the problems encountered in the implementation of the standard precautions in infection control?
 4. Is there a significant difference between the level of compliance to infection control measures between Public and Private Institutions in First District of Ilocos Sur?
 5. Is there a significant Relationship between the respondents' compliance to infection control measures in the following?
 - a. Socio-Demographic Profile
 - b. Hospital Related Factors
 6. What proposed plan of action can be proposed to improve the implementation of the standard precaution in infection control?

HYPOTHESIS

The researcher contemplated on the following hypothesis:

1. There is a significant difference on the compliance to Standard Precautions in Infection Control Between Public and Private Hospitals in First District of Ilocos Sur
2. There is a significant relationship between the health care worker respondents' compliance to standard precautions in infection control and the following:
 - a. Socio-Demographic factors

b. Hospital-Related Factors

Chapter 2

METHODOLOGY

This research section includes a discussion of the different organizing principles of the study. It comprises research design, study population and locale, research instrument, procedures and statistical treatment.

Research Design and Strategy

This study used the Quantitative analysis research design to interpret respondents' profile Frequency and percentages in describing the socio-economic and hospital-related profiles. Also, the study used the descriptive correlational design to describe the level of compliance to infection control among health care workers and to identify the relationship between the level of adherence to infection control to some variables. Quantitative analysis of the extent of compliance of the respondents on standard precautions in infection control and the problems encountered in the implementation, its weighted mean will be used in describing the respondent's adherence to standard precautions.

The convenience sampling technique was used to collect data from the targeted population. This type of sampling technique is considered suitable for this study because of the ease of selecting participants and the availability of easy access to participants. The data was collected over duty shifts to increase the sample's representativeness. Also, the selected hospitals were asked for their approval to conduct the study in their settings. The

researcher met the department heads and head nurses in each hospital. After that, all eligible participants were invited to participate in this study, while the researcher explained the consent form, study aim, data collection methods, and instruments used to all participants.

Population and Locale of the Study

This study will focus on Health care workers' compliance with standard precautions in infection control and its relationship to some of their socio-economic and hospital-related variables.

Population and Locale of the Study

This study will focus on Health care worker's compliance with standard precautions in infection control and its relationship to some of their socio-economic and hospital related variables.

Table 1

| <i>Distribution of Respondents</i> | | |
|---|------------|------------|
| Hospitals | N | % |
| Tertiary Hospital (Public) | | |
| Ilocos Sur Provincial Hospital-Gabriella Silang | 62 | 38.5 |
| Tertiary Hospital (Private) | | |
| Northside Doctors Hospital | 35 | 21.7 |
| Metro Vigan Hospital | 23 | 14.3 |
| Secondary Hospital (Public) | | |
| Suero General Hospital | 11 | 6.8 |
| Ilocos Sur District Hospital-Magsingal | 5 | 3.1 |
| Ilocos Sur District Hospital-Sinait | 3 | 1.9 |
| Secondary Hospital (Private) | | |
| Ilocos Sur Cooperative Medical Mission Group and Hospital | 13 | 8.0 |
| Santo Cristo Milagroso Hospital | 2 | 1.2 |
| Primary Hospital (Private) | | |
| St. James Hospital | 5 | 3.1 |
| Tolentino Hospital | 2 | 1.2 |
| Total | 161 | 100 |

Data Gathering Instrument.

The researcher used A structured survey questionnaire checklist enhanced by the researcher to gather data necessary to answer the Research problems. The questionnaire was based on the questionnaire developed by Fe Tuzon in her study “Compliance with Standard precautions: An Infection Control Measure of Nurses in Selected Hospitals in Metro Vigan” (2011), Recommendations for Application of Standard Precautions for the Care of All Patients in All Healthcare Settings obtained in Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (2007) and NATIONAL STANDARDS IN INFECTION CONTROL FOR HEALTH CARE FACILITIES by the National Center for Health Facility Development, Department of Health (Philippines) in consortium with the Philippine Hospital Infection Control Society (PHICS) inc. 2009 with modifications.

There are three parts to the questionnaire. The first part is on the socio economic and hospital-related factor of the respondents ;the second part is devoted to information regarding to the respondents’ compliance with standard precautions in infection control ; and third part on the problems encountered in the compliance of the health care workers on standard precaution in infection control.

Data gathering Procedure

The researcher sought permission from the directors/ chiefs/ administrators of selected hospitals in Ilocos Sur. With the ongoing restrictions imposed in the different hospitals, The questionnaire form was distributed electronically (link to the electronic form) by a verified contact person, usually a department head of the participating Institution. The approached Institutions permitted the researcher before allowing the conduct of the study. Thus, the respondents were informed that their participation was

voluntary and expressed their willingness to participate as part of the online survey. The data was collected in the period from January to April 2022. The participation of all respondents was completely anonymous and voluntary.

On the other hand, the electronic form of distribution ensures perfect anonymity and the possibility of reaching many respondents within the target population. As the study was targeted at healthcare facility employees, the author assumes a higher degree of compliance and reliability in responses. In augmentation cases of response to the online survey, the researcher administered the instrument to the respondents to ascertain their responses to the questionnaire. The respondent's extent of compliance with the standard precaution and problems encountered will be interpreted using the following norms for Interpretation.

| Scale | descriptive Rating | Transmuted Rating |
|--------------|---------------------------|---------------------------|
| 4.40-5.00 | Always (A) | Highly compliant (HC) |
| 3.50-4.49 | Often (O) | Compliant (C) |
| 2.50-3.49 | Sometimes (S) | Moderately compliant (MC) |
| 4.40-5.00 | Seldom (SD) | Slightly compliant (SC) |
| 3.50-4.49 | Never(N) | Not compliant (NC) |

| Scale | descriptive Rating | Transmuted Rating |
|--------------|---------------------------|--------------------------|
| 4.40-5.00 | Strongly agree | Highly serious |
| 2.50-3.49 | Agree | Serious |
| 1.50-2.49 | Neutral | Moderately serious |
| 4.40-5.00 | Disagree | Slightly serious |
| 2.50-3.49 | Strongly disagree | Not serious |

Statistical Treatment of Data

The following statistical techniques was employed to treat the data gathered in this study.

For Problem No. 1 on the respondents' profile Frequency and percentages was utilized in describing the socio-economic and hospital related profile of the respondents.

$$\% = \frac{f}{N} \times 100$$

For Problem no.2 and 3 on the extent of compliance of the respondents on standard precautions in infection control and the problems encountered in the implementation, the weighted mean was used in describing the respondent's compliance to standard precautions.

$$\text{weighted mean} = \frac{\sum W_i X_i}{\sum W_i}$$

For Problem No. 4, t-test was used to determine the significant difference in the level of compliance to standard precautions in infection control measure between Public and Private Hospitals in the first district of Ilocos Sur

For Problem 5, The Bivariate Correlation Analysis was used to determine the relationship between the Socio-economic factors except position to the Compliance to Standard Precautions. In addition, Chi-square test was used to determine the relationship between position and Hospital Related factors to the Compliance to Standard Precautions.

CHAPTER III

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

This chapter shows the exposition of the analysis and interpretation of data gathered. This chapter used tabular and textual modes to present and discuss the findings of this study

The profile of the respondents in terms of the following?

Socio-economic Factors

- c. Age,
- d. gender,
- e. Civil status,
- f. Highest educational attainment
- g. Employment status,
- h. Position/designation,
- i. Length of service, and
- j. Number of seminars attended relevant to infection control for the past two years,

B. Hospital- Related Factors

- a. type of Hospital, and
- b. area of assignment?

A. Socio- Economic Profile of the Respondents

The Socio-Economic Profile is presented in Table 2.

On Age. The Table shows that a great percentage of respondents (40.4%) are 20-25 years of age, followed by the age bracket of 31-35 years old, which is about 26.1%. There are 31 (19.3%) who are 26-30 years old, 14 (8.7%) who are 36-40 years old, and 6 (3.7%)

who are 41-45 years old. The least number of respondents is 51 and above, with only 3 (1.9%).

On sex. reGreatad Majority of the respondents are female at 117 (70.8%) while there are only 47 male respondents (29.2%)

On Civil Status. Most of the respondents are single, accounting for 114 (75.2%), while only 40 (24.8%) individuals were married and participated in the study. Single respondents dominated the research and so far, no widower participated in study.

On Employment status. the Majority of the respondents (88 or 54.7%) occupy permanent positions. A significant number of respondents are contractual (51 or 31.7%), and there were only 13 (8.1%) with temporary status. In this study, only several participants (9 or 5.6%) have a job-order status.

Highest Educational attainment. great Majority of the respondents (138 or 58.7%) are Bachelor's Degree Holders. Moreover, the number of respondents who have Masters's degree and who have Masters Degree Units are equivalent (10 or 6.2%), there are only 2(1.2%) who participated in this study who have Doctorate Degree units, and there is only one among the participants who had Doctorate Degree.

Position. he Table shows that a significant percentage of the respondents (79 or 49.1%) are nurses followed by a considerable number of Medical Technologists (68 or 42.2%). Only a few Midwives (8 or 5.2) and a few Nursing attendants (4 or 5.0%) participated in this study.

On length of service. The majority of the respondents which were 82(50.9%) are still in the beginning of their service as evidenced by their 1-3 years' length of service, followed by 42 (26.1) who serves for 4-6 years. 15 (9.3%) are employed for 7-10 years and 22(13.7%) years endured in the service, as seen in Table.

On number of seminars attended about infection control. Most respondents (101 or 62.7%) only participated in at least 1-2 workshops or training about Infection Control, followed by 26(16.1%) of the respondents who had 2-4 training or seminars about infection control. There are 11(6.8%) of the respondents had 5-6 training or discussions about infection control; it revealed during the survey that 23(14.3%) of the respondents had 6 or more seminars or training about infection control.

On Hospital Type. The majority of the respondents, 92(57.1%), are employed in a Tertiary hospital, followed by 48(29.8%) who work in a Secondary Hospital. This study revealed only 21(13.0%) who are currently employed in a Primary Hospital.

Table 2

Distribution of Respondents in terms of Socio-Economic factors

| Socio Economic Profile | f | % |
|---------------------------------------|----------|----------|
| Age | | |
| 20-25 | 65 | 40.4 |
| 26-30 | 31 | 19.3 |
| 31-35 | 42 | 26.1 |
| 36-40 | 14 | 8.7 |
| 41-45 | 6 | 3.7 |
| 50 and above | 3 | 1.9 |
| Total | 161 | 100.0 |
| Sex | | |
| Male | 47 | 29.2 |
| Female | 114 | 70.8 |
| Total | 161 | 100.0 |
| Civil Status | | |
| Single | 121 | 75.2 |
| Married | 40 | 24.8 |
| Total | 161 | 100 |
| Employment Status | | |
| Job-order | 9 | 5.6 |
| Contractual | 51 | 31.7 |
| Temporary | 13 | 8.1 |
| Permanent | 88 | 54.7 |
| Total | 161 | 100.0 |
| Highest Educational Attainment | | |
| Bachelor's Degree | 138 | 85.7 |

| | | |
|--|-----|------|
| With Master's Degree units | 10 | 6.2 |
| With Master's Degree | 10 | 6.2 |
| With Doctorate Degree units | 2 | 1.2 |
| With Doctorate Degree | 1 | .6 |
| Total | 161 | 100 |
| Position | | |
| Nurse | 79 | 49.1 |
| Medical Technologists | 68 | 42.2 |
| Pharmacist | 0 | 0 |
| Radiologic Technologist/ X-ray Technologists | 2 | 1.2 |
| Nursing Attendants | 4 | 5.0 |
| Midwife | 8 | 5.2 |
| Total | 161 | 100 |
| Length of Service | | |
| 1-3 | 82 | 50.9 |
| 4-6 | 42 | 26.1 |
| 7-10 | 15 | 9.3 |
| 11 and above | 22 | 13.7 |
| Total | 161 | 100 |
| Number of Seminars attended about infection control | | |
| 1-2 | 101 | 62.7 |
| 2-3 | 26 | 16.1 |
| 4-5 | 11 | 6.8 |
| 6 or above | 23 | 14.3 |
| Hospital Type | | |
| Primary | 21 | 13.0 |
| Secondary | 48 | 29.8 |
| Tertiary | 92 | 57.1 |
| Total | 161 | 100 |

B. Hospital-Related Factors

Table 3 exhibits the responses of the respondents relative to the type of Hospital they are affiliated, and the area where they are assigned.

On Hospital Type. The Majority of the respondents, 92(57.1%), are employed in a Tertiary hospital, followed by 48(29.8%) who works in a Secondary Hospital. This study revealed only 21(13.0%) are currently employed in a Primary Hospital. Further, it is indicative that health care worker respondents preferred to work in Tertiary Hospitals because of the vast experiences and opportunities appurtenant to tertiary Hospitals. Also, in the Philippines, Tertiary hospitals can provide a more significant number of Bed

capacities which can accommodate more patients, thus providing these workers more opportunities to be proficient in their chosen profession. Also, Tertiary Hospitals can offer their employees better benefits and privileges and provide better equipment and countless cases for the health care workers.

On Area of Assignment. A great Majority of the Health Care worker respondents are assigned to the Laboratory (70 or 43.2). Thirty-eight (23.6%) are Medical ICU or Medical Surgical Health Care Workers. The 22 (13.6%) are rotated in the Outpatient Department.

Table 3

Distribution of Respondents in terms of Hospital-Related factors

| Hospital- Related factors | F | % |
|--|----------|----------|
| Type of Hospital | | |
| Primary | 21 | 13.0 |
| Secondary | 48 | 29.8 |
| Tertiary | 92 | 57.1 |
| Total | 161 | 100 |
| On Area of assignment | | |
| Laboratory | 70 | 43.5 |
| Medical Intensive care Unit/Medical Surgery Ward | 38 | 23.6 |
| Neonatal Intensive care Unit | 10 | 6.2 |
| Operating Room/Delivery Room | 14 | 8.7 |
| Out Patient Department | 22 | 13.6 |
| All-around Nursing Service | 14 | 8.7 |
| Radiology | 6 | 3.7 |
| Molecular Biology Laboratory | 2 | 1.2 |
| Total | 161 | 100 |

The extent of compliance with standard precautions of the respondent along?

- a. Handwashing/Hand Hygiene;**
- b. Use of Personal Protective Equipment**
- c. Handling and Disposing of Sharps**
- d. Other Protective Practices?**

Level of compliance with standard precautions observed and practiced by the respondents.

On handwashing and Hand hygiene. Table 4 presents the level of compliance with standard Precautions in infection control practiced by the respondents regarding handwashing/hand hygiene.

The Table shows that the health care worker respondents are Highly Compliant (mean=4.79) with standard precautions in Infection control along with hand hygiene/hand washing. The present study was carried out when Covid-19 cases were severe in Ilocos Sur hence the High Complaint rating maybe because Hand washing is highly emphasized during the pandemic. According to WHO, handwashing is cardinal recommendation in fighting SarsCov-2 spread. Same High compliance is parallel to the results of Park et al. (2021) conducted in South Korea during the height of Pandemic. Hand hygiene is the core of Standard Precautions and undeniably the single most effective infection control measure. The importance of embedding efficient and effective hand hygiene into all elements of care delivery must be kept prominent within health care (WHO 2009). They are “always” aware that hand hygiene is one of the most important steps we can take to avoid getting sick and spreading microorganisms to others(mean=5.0); ascertained that hand hygiene actions prevent transmission of germs to the patient (mean=4.98); perform handwashing after they come in contact with soiled or

contaminated equipment (mean=4.98); immediately their hands wash after coming in contact with soiled or contaminated environmental surfaces (mean=4.94);

However, they “often” wash their hands immediately after using waterless or antiseptic hand cleansers/ sanitizers or moist towels (mean=4.46) and think that wearing gloves is an alternative to performing handwashing (3.93).

The findings of the present study imply that the health care worker respondents adhere to Handwashing/hand hygiene because of their recognition as an indispensable way of protecting themselves from Nosocomial infections. The high mean ratings garnered infers that the health care respondents are knowledgeable on generally provided institutional hand hygiene guidelines and that they are very aware of the repercussions and risks of not being compliant with handwashing. The results show that all healthcare respondents can recognize hand hygiene opportunities and develop a strong familiarity with observing standard precautions whenever situations arise.

Table 4

Mean Ratings showing the level of compliance with Standard Precaution in Infection Control observed by the respondents along Handwashing/Hand hygiene

| Items | Mean | DR | TR |
|--|------|----|----|
| I.... | | | |
| 1. am aware that aware that hand hygiene is one of the most important steps we can take to avoid getting sick and spreading microorganisms to others | 5.0 | A | HC |
| 2. perform handwashing after picking anything up from the floor | 4.69 | A | HC |
| 3. wash my hands before I perform such procedure or care to a patient | 4.89 | A | HC |
| 4. wash my hands before and after I perform such invasive procedures to a patient | 4.82 | A | HC |
| 5. perform handwashing after I come in contact with a soiled or contaminated equipment | 4.98 | A | HC |
| 6. immediately hand wash after I come in contact with a soiled or contaminated environmental surfaces | 4.94 | A | HC |
| 7. perform hand hygiene for about 20 seconds utilizing correct technique and or indicated by the Hospital of Directing Agency | 4.73 | A | HC |
| 8. wash my hands immediately after contact with non-intact skin, mucous membranes, blood, or any wet bodily fluid, secretions, excretory products | 4.93 | A | HC |

| | | | |
|---|-------------|-----------|-----------|
| even if gloves are worn during contact | | | |
| 9. think that wearing gloves is an alternative to performing handwashing | 3.93 | A | HC |
| 10. am conscious that bacteria and viruses are the most common causes for Hospital Associated infections | 4.89 | A | HC |
| 11. routinely use antiseptic alcohol-based antiseptic for hand hygiene | 4.77 | A | HC |
| 12. wash my hands immediately after using waterless or antiseptic hand cleansers/ sanitizers or moist towels | 4.46 | O | C |
| 13. ascertained that hand hygiene actions prevents transmission of germs to the patient | 4.98 | A | HC |
| 14. am convinced that receiving and or acquiring formal training on the compliance of standard precautions most especially hand hygiene will greatly reduce transmission of pathogenic microorganisms | 4.91 | A | HC |
| 15. wash my hands at the end of my shift and before leaving working areas/ facility | 4.92 | A | HC |
| Overall | 4.79 | HC | HC |

LEGEND:

| Scale | descriptive Rating | Transmuted Rating |
|-----------|--------------------|---------------------------|
| 4.40-5.00 | Always (A) | Highly compliant (HC) |
| 3.50-4.49 | Often (O) | Compliant (C) |
| 2.50-3.49 | Sometimes (S) | Moderately compliant (MC) |
| 4.40-5.00 | Seldom (SD) | Slightly compliant (SC) |
| 3.50-4.49 | Never(N) | Not compliant (NC) |

Table 5 shows that regarding adherence to personal protective equipment. The Health care respondents are “highly Compliant” (mean=4.73) when taken as a whole. The results of the present study are similar to the results obtained by El-Sokkary et al. (2021) that participants in their research are compliant with the use of masks, gloves, and face shields. However, attributed to the non-compliant nature are factors such as shortage of supply, negligence, and even personal discomfort. Not surprisingly, those females, physicians with medical specialties, and HCWs with less than ten years of work experience denoted to better compliance to proper PPE use. The respondents “always” wear gloves when they are aware that they have cuts, breaks and or scratches in their skin

before holding any contaminated materials (mean=4.99); use general purpose gloves (e.g. rubber household gloves) for cleaning instruments and decontamination procedures (mean=4.98); wear mask and eye protection during patient care activities on or performing procedures to patients that may generate splashes or splattering or spraying of blood, bodily fluids, excretions and secretions (mean=4.94); wear clean non-sterile gloves when initiating a procedure that may expose me to blood, bodily fluids, secretions, excretory products, mucous membranes, and non-intact skin (mean=4.93); remove gloves promptly and properly immediately after use (mean=4.93).

The Results imply the health care worker respondents continually recognize that PPE remains an important tool that serves as a comprehensive strategy for preventing the transmission of pathogens from patients to HCP. Preventing a potential exposure to blood and other body fluids, types of procedures, and personal protective use is considered factors per Gebresillasi (2014). The use of goggles and masks was inferior to the outcome of their study, where only 10.5 % of the HCWs always wore goggles in the workplace, having exposure to blood and other body fluids. The poor finding may stem from a material shortage, as supported by the qualitative and quantitative results.

The study revealed that the respondents “often” do not wash or attempt to wash to disinfect medical/surgical/ examination gloves for reuse (mean=4.45) and remove the PPE and clothing when it becomes visible contaminated and before leaving the work (mean=4.26). Also, they “often” use general-purpose gloves (e.g., rubber household gloves) for housekeeping even if blood contact is possible (mean=3.98). The immediate results are because when immediate health consequences of contamination are not apparent for either patients or HCP, HCP may not recognize the importance of work practices, including correct and consistent PPE use. The shortage of PPE is common at the height of a pandemic, and it is worth noting that some factors that led to the shortage

of PPE are the unnecessary overuse of PPE. The haphazard overuse of PPE during the height of the pandemic is implicated by the anxiety and fear of HCWs and the community of possibly contractive Covid-19 disease. Receiving proper training and accurately using PPEs are significant predictors for PPE use. El-sokkary et al. (2021).

According to Maltezou et al. (2021), When possible, HCWs should use disposable items/devices/instruments. Housekeeping personnel should be specifically and routinely trained, or alternate procedures (i.e. housekeeping performed by nurses or physicians) should be in place. HCWs should be familiar with procedures about hygiene and decontamination procedures. Periodical monitoring and audit is needed. A policy must be available for exceptional circumstances, such as the emergency repair of drains and pipe work in the facility. Appropriate supervision and personal protective equipment must be general for workers performing these tasks.

Table 5

Mean Ratings showing the level of compliance with Standard Precaution in Infection Control observed by the respondents along Use of Personal Protective Equipment

| Items | Mean | DR | TR |
|---|------|--------|----|
| I.... | | | |
| 1. wear clean non-sterile gloves when initiating a procedure that may expose me to blood, bodily fluids, secretions, excretory products, mucous membranes, and non-intact skin. | 4.93 | Always | HC |
| 2. change gloves in between tasks and procedures on the same patient after contact with material that may contain high concentration of microbes | 4.77 | Always | HC |
| 3. wear gloves when I am aware that I have cuts, breaks and or scratches in my skin before holding any contaminated materials. | 4.99 | Always | HC |
| 4. do not wash or attempt to wash to disinfect medical/surgical/ examination gloves for reuse. | 4.45 | Often | C |
| 5. use hypoallergenic gloves when I am allergic to standard latex gloves | 4.66 | Always | HC |
| 5. use general purpose gloves (e.g. rubber household gloves) for housekeeping even if blood contact is possible | 3.98 | often | C |
| 6. use general purpose gloves (e.g. rubber household gloves) for cleaning instruments and decontamination procedures | 4.98 | Always | HC |
| 7. remove gloves promptly and properly immediately after use | 4.93 | Always | HC |
| 8. wear mask and eye protection to protect the mucous membranes of my eyes nose and mouth before and during procedures that may risk me to such infections | 4.83 | always | HC |
| 9. wear mask and eye protection during patient care activities on or performing procedures to patients that | 4.94 | Always | HC |

| | | | |
|---|-------------|-------------------------|-----------|
| may generate splashes or splattering or spraying of blood, bodily fluids, excretions and secretions. | | | |
| 10. wear clean, non-sterile fluid-resistant gowns to protect me my skin from possible infectious material and to prevent soiling of clothing during patient care activities on or performing procedures to patients that may generate splashes or splattering or spraying of blood, bodily fluids, excretions and secretions. | 4.81 | Always | HC |
| 11. select gown that is appropriate to an activity I will be performing and amount of hazard and fluid that are likely to be encountered. | 4.84 | Always | HC |
| 12. remove my soiled gown promptly and properly as possible, and will wash my hands immediately after removing it. | 4.81 | Always | HC |
| 13. wear disposable impervious show covering where there is massive blood contamination on floors and wear gloves in removing them | 4.80 | Always | HC |
| 14. remove the PPE and clothing when it becomes visible contaminated and before leaving the work are. | 4.26 | Often | C |
| Overall | 4.73 | Highly Compliant | HC |

| Scale | descriptive Rating | Transmuted Rating |
|-----------|--------------------|---------------------------|
| 4.40-5.00 | Always (A) | Highly compliant (HC) |
| 3.50-4.49 | Often (O) | Compliant (C) |
| 2.50-3.49 | Sometimes (S) | Moderately compliant (MC) |
| 4.40-5.00 | Seldom (SD) | Slightly compliant (SC) |
| 3.50-4.49 | Never(N) | Not compliant (NC) |

The table below explicitly shows an overall mean of 4.44 with a transmuted rating of Compliant with adherence to standard precautions in infection control along with handling and disposing of sharps which correspond to compliant. As compared to the previously shown practices of respondents along Handwashing and Use of personal protective equipment, this parameter only tagged as compliant when compared to the former, which are highly compliant. According to Sadoh et al. (2012) The risk of seroconversion following a needle stick injury from an HCV-antigen-positive patient is estimated to be 1.2 to 10%. In the study of King et al. (2021), they postulated that Needlestick injuries still occur in health care settings and that it is essential to institutionalize universal precautions and safety-conscious needle designs. Sustaining the use of safety-engineered needles has led to a decline in needle stick injuries, although they continue to be reported on a much lower incidence than in the past. In North

America, millions of healthcare workers use needles every day, so the risk of needlestick injuries is always a concern.

The results show that the respondents it is their practice that they "always" discard needles/syringes/sharps in a color-coded and puncture-proof container (mean=4.86); do not place sharps into any other container aside from the installed container of sharps (mean=4.86); assume that accidental needle sticks injury can happen if they are negligent on discarding properly sharp wastes(mean=4.78) immediately report an occurrence of Accidental Needle stick injury to my immediate supervisor or chief (mean=4.76); and do not normally overfill sharps container and that they always make sure that the container is tightly closed, placed upright I the regulated trash area when the container is already $\frac{3}{4}$ full (mean=4.76

The participants exhibited more practices with an "often" nature along with handling and disposing of sharps; the respondents "often" recap the needle they used right after performing phlebotomy (mean=4.49); recap a contaminated needle only when no alternative is reasonable in an unanticipated situation (mean=4.27); don't break contaminated needles (mean=4.24); recap a contaminated needle only when no alternative is reasonable for the medical procedure (mean=4.14); and they recap a contaminated needle only when administering incremental doses of a medication to the same patient, such in ICU, administering anesthetics (mean=4.0)

According to Guh (2012), transmission-based infections often result from reusing needles and sharing of injectable medications with reused syringes, and they also identified apparent reuse of syringes or insulin pens from one patient to another, among others. Also, In most cases needlestick injuries occur primarily because of unsafe practices and gross negligence on the part of the healthcare workers. Most needlestick injuries are indeed preventable if standardized protocols are well adhered as per King et

al.(2021) Moreover, it is necessary for Health cares to be aware of the consequence of needlestick injuries and what can be done to prevent them since, most of the time, they are susceptible to different types of hazards. Today most hospitals are actively promoting policies and protocols to avoid needlestick injuries.

HCWs may corroborate the Compliant nature of health care worker respondents along this indicator to the fear of notifying concerned personnel. Per Guh (2012), Public health has an influential role in investigating adverse events because it is quite common across multiple health care facilities. Those who are not fully cooperative or capable of objectively and effectively managing the process themselves consequently result in infections that might remain undetected. Broader patient notification is essential to trace clusters of viral transmission in a separate facility where the implicated provider had also worked. Interestingly, the study of Zeb & Ali (2021) corroborated that increase in knowledge and compliance to SP is seen on individuals who experienced needle stick injuries. Abdluraheem (2021) reiterated the importance of safely handling syringes to avoid contracting Hepatitis B or C. Caution is paramount as per Park et al. 202

Although the respondents exhibited a compliant nature in handling and disposing of sharps, the respondent's practice of burning needles immediately after use garnered only a mean of 3.0 and by far the lowest mean rating for handling and disposing of sharps. This is because it is a customary practice by the hospitals to never reuse a used needle after most institutions strictly adhere to providing disposable equipment.

Table 6

*Mean Ratings showing the level of compliance with Standard Precaution in Infection Control observed by the respondents along **Handling and disposing of Sharps***

| Items | Mean | DR | TR |
|--|-------------|------------------|----------|
| 1. don't break contaminated needles | 4.24 | Often | C |
| 2. recap a contaminated needle only when no alternative is reasonable for the medical procedure. | 4.14 | Often | C |
| 3. recap a contaminated needle only when no alternative is reasonable in an unanticipated situation | 4.27 | Often | C |
| 4. recap a contaminated needle only when administering incremental doses of a medication to the same patient, such in ICU, administering anesthetics | 4.00 | Often | C |
| 5. recap the needle I used right after performing phlebotomy. | 4.49 | Often | C |
| 6. recap a needle using a one-handed recapping technique or using some forceps in an extremely safe manner | 4.63 | Always | HC |
| 7. immediately report an occurrence of Accidental Needle stick injury to my immediate supervisor or chief. | 4.76 | Always | HC |
| 8. recap contaminated needles if I think it is the only means for providing safe transport to the needle disposal container. | 4.57 | Always | HC |
| 9. place reusable sharps in a color-coded and puncture proof container immediately after its use. | 4.65 | Always | HC |
| 10. discard needles/syringes/sharps in a color coded and puncture proof container. | 4.86 | Always | HC |
| 11. do not place sharps into any other container aside from the installed container of sharps.. | 4.86 | Always | HC |
| 12. do not normally overfill sharps container. I always make sure that the container is tightly closed, placed upright I the regulated trash area when container is already ¾ full.. | 4.76 | Always | HC |
| 13. burn needles immediately after use | 3.0 | sometimes | MC |
| 14. assume that accidental needle sticks injury can happen if I am negligent on discarding properly sharp wastes. | 4.78 | Always | HC |
| 15. think that having Hepatitis immunization is going protect me from getting infected brought about by needle sticks injury | 4.64 | always | C |
| Overall | 4.44 | Compliant | C |

| Scale | descriptive Rating | Transmuted Rating |
|-----------|--------------------|---------------------------|
| 4.40-5.00 | Always (A) | Highly compliant (HC) |
| 3.50-4.49 | Often (O) | Compliant (C) |
| 2.50-3.49 | Sometimes (S) | Moderately compliant (MC) |
| 4.40-5.00 | Seldom (SD) | Slightly compliant (SC) |
| 3.50-4.49 | Never(N) | Not compliant (NC) |

Table 7 shows that health care worker respondents are Highly Compliant(mean=4.87) with compliance to standard precautions in infection control along with Other Protective practices. Per Maltezou et al. (2017) Globally, hundreds of millions of people are affected annually by avoidable healthcare infections (healthcare-associated infections, HAIs). The determinants of HAI are influenced by a complex combination of policies, infrastructure, organization and knowledge gaps, defects in healthcare workers' behavior, and patient-related factors. Interesting, the result of the present study is inconsistent to Wong et al.'s (2017) study wherein other protective practices such as handling patient, compliance during invasive procedures seemed to be poor. Although, they identified ways to bridge gaps relating to nurses proficiency in performing high risk procedures. Interestingly, level satisfaction to infection control policy needs to be recognized by the organization implementing it as this is associated to the compliance to SPs among health care workers.

It is shown in the table above that respondents “always” wash using soap and clean water when they think that their skin or mucous membranes come in contact with blood and other bodily fluids and or patient specimens that are highly infectious (mean=4.98); put all specimens of blood, bodily fluids, human tissues in well-constructed containers with secure lids to prevent leakage during transport (mean=4.94) ; handle soiled linens very carefully (mean=4.91); avoid contaminating the outside of container when collecting specimens (mean=4.91); use a medical grade germicide that is authorized for use as a hospital disinfectant to decontaminate working areas after an occurrence of spillage of blood and or other bodily fluids that are classified as highly infectious (mean=4.90), and flush my eyes using clean water they come in in contact with blood and other bodily fluids and or patient specimens that are highly infectious (mean=4.89

Moreover, they “always” use a solution of sodium hypochlorite for decontamination (mean=4.58), and Prioritize for single-patient room if patient is at increased risk of transmission, is likely to contaminate the environment, does not maintain appropriate hygiene, or is at increased risk of acquiring infection or developing adverse outcome following infection (mean=4.58). However, respondents along this practice “often” carefully pour the bulk of blood, suctioned fluids, and excretions containing blood and secretions down the drain (drains) connected to a sanitary sewer (mean=4.47) and handle Textiles and laundry in a manner that prevents the transfer of microorganisms to others and the environment (mean=4.40).

This means that the health care worker respondents can apply other practices in infection control proficiently. Further, they could recognize what measures needed to use when circumstances presented to them. The present study exemplifies that their knowledge and perceptions regarding managing potentially infectious materials are innumerable that they were able to be very cognitive in anticipation of threatening situations. Even though health care workers exhibited high compliance in other protective practices, according to Suarez (2019), equipment used during the conduct of health care should be used per the existing guidelines to avoid gaps leading to the incidence of HAIs. Biomedical waste does not only affect individuals working at hospitals; when these wastes are handled and disposed of improperly, marginalized sectors of the community will also be affected like those scavengers. According to Yusuf et al. (2020), there are reported cases of Hepatitis seroconversion on scavengers who indiscriminately source out recyclable materials from dumpsites containing numerous used needles from hospitals. Hospitals should treat and segregate their wastes properly most especially when handled by external contractors.

Table 7

Mean Ratings showing the level of compliance with Standard Precaution in Infection Control observed by the respondents in other protective practices

| Items | Mean | DR | TR |
|--|-------------|-------------------------|-----------|
| I... | 4.98 | | |
| 1. wash using soap and clean water when I think my skin or mucous membranes comes in contact with blood and other bodily fluids and or patient specimens that are highly infectious. | | Always | HC |
| 2. flush my eyes using clean water they come in in contact with blood and other bodily fluids and or patient specimens that are highly infectious. | 4.89 | Always | HC |
| 3. .handle soiled linens very carefully | 4.91 | Always | HC |
| 4. place soiled linens in leakage-proof bags at the location where it is used. | 4.81 | Always | HC |
| 5. put all specimens of blood, bodily fluids, human tissues in well-constructed containers with secure lids to prevent leakage during transport. | 4.94 | Always | HC |
| 6. avoid contaminating the outside of container when collecting specimens. | 4.91 | Always | HC |
| 7. use a medical grade germicide that is authorized for use as a hospital disinfectant to decontaminate working areas after an occurrence of spillage of blood and or other bodily fluids that are classified as highly infectious. | 4.90 | Always | HC |
| 8. use a solution of sodium hypochlorite for decontamination | 4.58 | Always | HC |
| 9. make sure that plastic disposable bags are available to remove contaminated items from spill sites | 4.84 | Always | HC |
| 10. adhere to Institutional/agency Policies for disposal of infectious waste and decontamination of materials.. | 4.89 | Always | HC |
| 11. carefully pour bulk of blood, suctioned fluids, and excretions containing blood and secretions down the drain (drains connected to a sanitary sewer.. | 4.47 | Often | C |
| 12. handle Textiles and laundry in a manner that prevents transfer of microorganisms to others and to the environment | 4.40 | often | C |
| 13. Prioritize for single-patient room if patient is at increased risk of transmission, is likely to contaminate the environment, does not maintain appropriate hygiene, or is at increased risk of acquiring infection or developing adverse outcome following infection. | 4.58 | always | HC |
| 14. Instruct symptomatic persons to cover mouth/nose when sneezing/coughing; use tissues and dispose in no-touch receptacle;. | 4.68 | Always | HC |
| 15. maintain spatial separation from patients, >3 feet if possible | 4.85 | always | HC |
| Overall | 4.78 | Highly Compliant | HC |

Summary. The summary of the level of standard precautions observed and practiced by the respondents is presented in table 8

The table below displays that in their compliance to standard precautions in infection control, the respondents, the health care workers in the 1st District of Ilocos Sur are Highly Compliant. They are Highly Compliant with the practice of Handwashing/ hand Hygiene (mean=4.79), along the use of Personal Protective Equipment (mean=4.73), and other protective practices (mean=4.78). However, it is apparent in the table that their compliance with Handling and disposing of Sharps is only “compliant” (mean=4.44)

Table 8

The summary of the level of compliance to standard precautions in Infection Control observed and practiced by the respondents

| Dimensions | Mean | DR |
|--------------------------------------|-------------|-------------------------|
| Handwashing/Hand Hygiene | 4.79 | Highly Compliant |
| Use of Personal Protective Equipment | 4.73 | Highly Compliant |
| Handling and Disposing of Sharps | 4.44 | Compliant |
| Other Protective Practices | 4.78 | Highly Compliant |
| Overall | 4.68 | Highly Compliant |

The problems encountered in the implementation of the standard precautions in infection control?

The following table revealed that the problems encountered by the respondents in implementing Standard Precautions in infection control are “moderately serious” with an

overall mean of 2.62. The result of the present study boosts the results yielded by Badran et al. (2020); perceived barriers to adherence to preventive measures are only moderate among HCWs addressing perceived barriers that will negatively affect compliance to standard precautions. It means that most Institutions now are particularly attentive to the encountered concerns of their HCWs, and they were able to provide frequent training, simulations for competency checks, and timely evidence-based guidelines. Moreover, it revealed in the table that they “disagree” that there is no written program for dissemination, implementation, and monitoring of infection control policies, guidelines, and procedures (mean=2.38). Zeb and Ali (2021) reviewed that problems invoking interpersonal, departmental, and organizational levels will certainly affect knowledge and compliance to SP.

The majority of the problems encountered by the health care workers' respondents are being “neutral’ about those that they perceived to have been encountered. They remain “neutral” on the problem encountered that There is no efficient mechanism of reporting healthcare-associated and community-acquired notifiable/reportable infections including significant outbreaks/potential outbreaks to ICT, ICC and the National Epidemiology Center, Department of Health (mean=2.73); there is no Infection control management structure under the Office of Chief of Hospital with Sufficient resources (mean=2.70), and there is no Infection control management structure under the Office of Chief of Hospital with Sufficient resources and clear lines of responsibility (mean=2.71)

This means that the following problems encountered in the implementation of compliance in Standard Precautions in Infection Control is recognized as indistinctive among the health care workers as this may be because the adherence to standard precautions in infection control has been significantly improved over the years. This

attests to the support that has been continually given by the Institutions where the respondents are respectively employed. Albeit, problems encountered in the implementation of standard precautions remains moderately serious among healthcare workers, Hesse et al (2006) recommended that the states' top Institutions promoting practice of Standard precautions will still incessantly have to develop and implement specific policies on the practice of universal precautions, training of health care providers and ensuring the consistent supply of protective materials is given. Also, Quan et al. (2015) and Zeb & Ali featured that positive Organizational Culture may have influenced the level of compliance. Attitude of supervisors really is an impact to avoid unfounded peculiarity among employees that might lead to suboptimal practice of SP.

Table 9

Mean Ratings of the problems encountered in the implementation of Standard Precautions in Infection Control by the Health Care Workers

| PROBLEMS ENCOUNTERED IN THE COMPLIANCE TO STANDARD PRECATIONS | Mean | DR | TR |
|---|------|----------|----|
| 1. There is no Infection control management structure under the Office of Chief of Hospital with Sufficient resources and clear lines of responsibility. | 2.71 | Neutral | MS |
| 2. There is no functional Infection Control Committee | 2.70 | Neutral | MS |
| 3. There is no active and effective Infection Control Team | 2.65 | Neutral | MS |
| 4. The Infection Control Committee does not initiate development, implementation, evaluation, review and update of the written guidelines, policies and procedures pertinent to the activities of a department/unit | 2.60 | Neutral | MS |
| 5. There is no written program for dissemination, implementation and monitoring of infection control policies, guidelines and procedures | 2.38 | Disagree | SS |
| 6. There are no documents available to all users in the laboratory, which describes the organization, and scope of laboratory | 2.67 | Neutral | MS |

| services and standard operating procedures | | | |
|--|--|-------------|---------------------------|
| 7. | There is no defined surveillance program | 2.60 | Neutral MS |
| 8. | There is no efficient mechanism of reporting healthcare-associated and community acquired notifiable/reportable infections including significant outbreaks/potential outbreaks to ICT, ICC and to the National Epidemiology Center, Department of Health | 2.73 | Neutral MS |
| 9. | There are no adequate resources available in the hospital for the acquired education and training activities | 2.61 | Neutral MS |
| 10. | There are no available infection control educational programs for the healthcare staff and support services focused on relevant topics appropriate to specific control setting. | 2.53 | neutral MS |
| Overall | | 2.62 | Moderately Serious |

| Scale | descriptive Rating | Transmuted Rating |
|-----------|--------------------|--------------------|
| 4.40-5.00 | Strongly agree | Highly Serious |
| 3.50-4.49 | agree | Serious |
| 2.50-3.49 | neutral | moderately Serious |
| 1.50-2.49 | disagree | slightly Serious |
| 1.00-1.49 | strongly disagree | not Serious |

The significant difference in the level of compliance to infection control measures between the Private and Public Health Care Workers in First District of Ilocos Sur?

It can be seen in the table below that, as a whole, the level of compliance with infection control measures has a mean rating of the private institution ($\bar{x} = 4.72$) is higher than that of the public institution ($\bar{x} = 4.63$).

The table shows that the computed t-value of 2.289 yielded a significant result since it is greater than the critical value of 1.974996 at a 0.05 level of significance with 159 degrees of freedom, wherein it falls within the area of rejection. Therefore, the

hypothesis that there is a significant difference in the level of compliance to infection control measures between the Private and Public Health Care Workers in the First District of Ilocos Sur is accepted. The juxtaposition of the findings of this present study negates the results of Johnson OE (2014) that The practice of Universal. Precautions were higher among public health facilities' health workers than in private health facilities. Factors such as having erroneous ideas such as assuming that needles should be recapped, bent, or detached from syringes before disposal are contributory factors to adherence to universal precautions. Zeb & Ali (2021) attested that smaller hospitals have a slightly inferior compliance to SPs ascribed to absence of infection control committee and lack of infrastructure basing from their observations. Resource-limited settings particularly in small hospitals has put HCWs in a difficult situation but it made them more resilient in handling overburdened scenarios. Moreover, the present study is dissimilar to the excerpts cited by Alhumaid et al. (2021) that Reported compliance with infection control in public, secondary, and tertiary hospitals was likely to be better than in the private or primary ones. It's a possibly related to poor conditions for IPC at the private or primary hospitals. The targeted respondents in the present study are employed in Private Tertiary Hospitals. Suboptimal compliance with IPC practices has been observed across different health settings, whether from high-income or low-income settings. The present study underscores that the Health Care Worker respondents under the private institution have a higher level of compliance with infection control measures than in the public institution in the First District of Ilocos Sur. Generally, hospitals at higher levels (secondary and tertiary healthcare) have vast resources capacitating personnel, including technologically advanced equipment and more educated staff. Institutions of higher accreditation can perform more sophisticated operations and are more likely to entice clientele. High compliance can be seen from the recognition of incorrect practices, unsafe handling,

disposal of sharps, and dangerous cleaning procedures, which predominate among private healthcare providers compared to public health workers and those working in rural areas when compared to urban areas. Also, HCWs who had more consistent management support toward safety environment in their institution were more likely to always adhere to SPs than those with less frequent support. Moreover, strong and unprecedented management support could also amplify the adherence of HCWs to SPs by setting practice standards and establishing a system that acknowledges workers by giving them rewards and incentives. In addition, management support could also help strengthen infection prevention activities by designing controlling mechanisms and taking corrective measures on noncompliant HCWs. Although private and public institutions employ health care workers practically have the same level of practice in hand hygiene, Capital investment should be enshrined, ensuring that sinks and running water are available at all times in all patient care areas. Institutions delivering health care should organize an infection prevention committee that works to have close, supportive supervision, monitoring, and evaluation of standard precautions practice as one of their responsibility.

On Handwashing/ hand Hygiene, the level of compliance with infection control measures has a mean rating of the private institution ($\bar{x} = 4.80$) is slightly higher than that of the public institution ($\bar{x} = 4.78$). Testing it for the significant difference using a t-test a computed t-value of 0.474 is lower than the critical value of 1.974996 at a 0.05 level of significance with 159 degrees of freedom.

Therefore, the hypothesis states that there is a significant difference in the level of compliance to infection control measures between the Private and Public Health Care Workers in the First District of Ilocos Sur is rejected. Thus, there is no significant difference between the level of compliance with infection control measures of the two groups of Health Care Worker respondents and Handwashing/ hand Hygiene. It implies

that the Health Care Worker respondents of the private and public institutions have the same practices on Handwashing/ hand Hygiene. Larson et al. (2010) reported that top management involved in exemplifying an organizational culture of hand hygiene had a positive effect on the practice among the staff by compliance to hand hygiene, eventually reducing the likelihood of methicillin resistant *Staphylococcus aureus* (MRSA) and vancomycin resistant enterococci (VRE) occurrence. Investigated compliance with glove utilization and factors related to non-compliance in Hospital Universiti Sains Malaysia discovered insufficient stock, which consequently resulted in its unavailability thus, 'reduction of tactile sensation' was the most critical factor impacting compliance. Investigations by Ferguson et al. that Negative implications seen in their study were not commonly seen in the institutions here in Ilocos Sur as Hand hygiene is extensively promoted regardless of the type and level of the hospital.

Use of Personal Protective Equipment, the level of compliance with infection control measures has a mean rating of the private institution ($\bar{x} = 4.75$) is close to the public institution ($\bar{x} = 4.71$), and the mean difference is 0.04. The computed t-value of 0.941 is lower than the critical value of 1.974996 at a 0.05 level of significance with 159 degrees of freedom. Thus, the hypothesis states that there is a significant difference in the level of compliance to infection control measures between the Private and Public Health Care Workers in the First District of Ilocos Sur is rejected. This implies that the practices on the use of personal protective equipment of the two institutions are the same.

Handling and disposing of Sharps, the level of compliance with infection control measures has a mean rating of the private institution ($\bar{x} = 4.55$) is higher than that of the public institution ($\bar{x} = 4.28$) and a mean difference of 0.27. The table shows that the computed t-value of 2.804 yielded a significant result since it is greater than the

critical value of 1.974996 at a 0.05 level of significance with 159 degrees of freedom, wherein it falls within the area of rejection. Therefore, the hypothesis that there is a significant difference in the level of compliance to infection control measures between the Private and Public Health Care Workers in the First District of Ilocos Sur is not rejected. It implies that the Health Care Worker respondents under the private institution have a higher level of compliance with infection control measures along with Handling and disposing of Sharps than in the public institution. It could be due to the Irregular supply of PPE and other required materials as the major cause of poor adherence to standard precautions. To support these implications, it was postulated by Luo et al. 2010 that they found out that majority of their nurse employees were equipped with sharps disposal boxes but later on did not use these boxes. One-off collection boxes are known to increase department expenses, especially in the grass-roots units. Due to economic constraints, protection equipment cannot always be purchased and provided as required by the regulations. Using needles with bare hands and recapping needles by hand is quite common. Their findings will be necessary to plan appropriate measures to improve the knowledge and compliance of HCWs to standard precautions, thereby reducing the risk of occupational exposures and subsequent infection transmission among HCWs. Tayaben (2015) recommended that HCWs observe uninterrupted compliance and implementation of safe practices for sharp disposal at all times since the commencement of programs relative sharps disposal. Policies and procedures, education and training, and resources should be addressed and reviewed by hospitals to be strictly implemented to prevent sharp injury. Moreover, private institutions that promote better compliance and handling sharps may have the capacity to reinstate the uncomplicated provision of necessary funding required for procurement of supplies and training needed for exemplifying adherence to standard precautions. In public hospitals, the process for

procurement of funding undergoes a stringent and tedious step before it can be awarded. It is true that top management in the institutions directly affects the accessibility of essential safety supplies and equipment to promote a safe workplace safety climate for HCWs, and patients. It is also evident that, without support from the management, it could be tough to renovate engineering controls necessary for infection control, and it could hardly be possible to allocate a sufficient budget for infection prevention activities commonly seen in highly politicized public institutions.

Lastly, in Other Protective Practices, the level of compliance with infection control measures has a mean rating of the private institution ($\bar{x} = 4.80$) is close to the public institution ($\bar{x} = 4.75$) and the mean difference is 0.05. The computed t-value of 1.023 is lower than the critical value of 1.974996 at a 0.05 level of significance with 159 degrees of freedom. Therefore, the hypothesis that there is a significant difference in the level of compliance to infection control measures between the Private and Public Health Care Workers respondents and the other protective practices is rejected. This means there is no significant difference in the practices of the two institutions on the other protective practices.

Table 10

Significant Difference between the Level of Compliance to Infection Control measures between the Private and Public Health Care Workers in the First District of Ilocos Sur

| Indicators | Private | | | Public | | | t | Decision |
|---|---------|-----------|------|--------|-----------|------|-------|-----------------------------|
| | n | \bar{x} | sd | n | \bar{x} | sd | | |
| Handwashing/ hand Hygiene | 93 | 4.80 | 0.21 | 68 | 4.78 | 0.28 | 0.474 | Reject Ha |
| Use of Personal Protective Equipment | 93 | 4.75 | 0.29 | 68 | 4.71 | 0.25 | 0.941 | Reject Ha |
| Handling and disposing of Sharps | 93 | 4.55 | 0.53 | 68 | 4.28 | 0.70 | 2.804 | Do not Reject Ha |

| | | | | | | | | |
|-----------------------------------|----|------|------|----|------|------|-------|------------------|
| Other Protective Practices | 93 | 4.80 | 0.29 | 68 | 4.75 | 0.29 | 1.023 | Reject Ha |
| As a Whole | 93 | 4.72 | 0.27 | 68 | 4.63 | 0.25 | 2.289 | Accept Ha |

t-critical at 0.05 = ± 1.974996

Table 11.

Summary on the Significant Difference between the Level of Compliance to Infection Control measures between the Private and Public Health Care Workers in the First District of Ilocos Sur

| INDICATORS | DECISION |
|--------------------------------------|-------------------------|
| Handwashing/ Handhygiene | Reject Ha |
| Use of personal Protective Equipment | Reject Ha |
| Handling and Disposing of Sharps | Do not reject Ha |
| Other Protective Practices | Reject Ha |
| Overall | Accept Ha |

The significant Relationship between the respondents' compliance to infection control measures in the following:

- a. **Socio-Demographic Profile**
- b. **Hospital Related Factors**

On handwashing /hand hygiene. The Table reveals no significant relationship between the health care worker respondent's level of compliance to standard precautions in infection control with hand hygiene/handwashing and their socio-economic factors. This is in contrast with the findings in the study conducted by Tuzon, 2011 whereby she posited that respondents who are young, single, and more youthful in the service tend to have higher compliance with standard precautions in infection control with handwashing compared to the old, married and those who are more senior in the service. The findings suggest that they recognize hand hygiene as a very indispensable protocol to prevent disease transmission and that no matter what situation they encounter at their respective institutions, they do not neglect handwashing as an essential thing to do after patient care.

On Use of Personal Protective equipment. The study yielded that the socio-economic factors of the health care worker respondents in terms of their Age ($r=.262$), civil status ($r=.214$ significant at .05 level), status of appointment ($r=.117$ have a significant relationship with the level of compliance along with use of personal protective equipment. The findings suggest that the older health care workers and those who have permanent Position have a greater adherence to standard precautions in infection control primarily because they have been exposed to extensive opportunities in practicing patient care and with long practice of these standard precautions it already became incumbent upon them without the need to be periodically reminded. Park et al. (2021) authenticated that prolonged career positively impacts compliance to SPs. In the Philippines, it is customary among institutions to promote an individual relative to the profound experience and length of service. The more prolonged professional exposure of health care workers may contribute to their better compliance. The concern is that majority of the respondents of this study have been working for only three years or less, which is a typical scenario in the country. Filipino health care workers tend to accumulate at least a minimum of two years of hospital experience to comply with the requirement abroad. Thus, most nurses going abroad are the more experienced, leaving behind those with lesser experience. The decline of the more experienced and skilled nurses has negatively impacted the nursing workforce in the country. It also shows here that single respondents are more likely to use PPE because younger individuals tend to depend on what was theorized during their collegiate years versus in the actual practice. Also, younger individuals are more elaborate or intricate in adhering to the ideal way of mitigating the spread of infection.

Likewise, in handling and disposing of sharps, the health care worker respondents' have a significant relationship along their Age, civil status, and appointment

status. This is backed up by the computed correlation coefficient of .245, .169, and .163, respectively. What sets handling and disposing of sharps in terms of the level of compliance from respondents' use of PPE, the study revealed that their Position had a significant relationship with their level of compliance, with a correlation coefficient of 55.269. This is because health care workers who occupy a position should manifest extreme compliance to standard precautions so that their subordinates could emulate good practice.

In other protective practices, only age and status of appointment asserts a significant correlation with other protective practices with a computed coefficient correlation of .170 and .169 respectively. This implies that personnel who have higher longevity and who occupy a higher rank at work are considered to be more compliant to standard precautions in infection. This is because with their level of experience, it made them proficient in their daily performance of their assigned task allowing them to sustain their meticulous adherence to standard precautions in infection control. With regards to their longevity at work, they have undergone much more series of training in infection control practices and witnessed how these measures have evolved with time allowing them to adapt to recent standards.

The Table reveals that only the Area of Assignment of the two Hospital Related factors yielded a significant relationship with the level of compliance to standard precautions in Infection Control along with Handling and Disposing of Sharps (42.028). This is supported by the computed correlation, which gained significance at a .05 probability level; hence the null hypothesis of no significant relationships in this variable is rejected. Based on the findings of the study, the significant relationship manifested is seen in the distribution of area of assignment where the majority of respondents are assigned to the laboratory. The results of this data is seen in the previous tables where

Medical Technologists are assigned particularly in this area. The result indicates that the Hospital Related factors of the respondents, particularly in their area of assignment, influence the level of compliance with standard precautions with Disposing of Sharps. This imply that with regards to their area of assignment, the present study is supported by the study conducted by Pasay et al (2015) stating their Nurses' area of assignment will most certainly affect their compliance and should exhibit full conformity on the policies provided along standard precautions regardless what are they are assigned to. According to Azeb (2014), HCWs working in rooms with a particular written material communicating risks are 1.8 times likely to practice standard precautions than HCWs working in rooms without written material for risk communication. Also, developing well-defined policies, procedures, and financial mechanisms for preventing infection in health care facilities is needed to establish higher compliance. The health care respondents in the First District of Ilocos Sur are highly compliant with Standard Precautions to protect themselves from Nosocomial infections that can cause an array of conditions affecting their overall health.

Overall. It can be seen from the Table that there is a significant relationship between health care worker respondents' level of compliance with standard precautions in infection control in a singular variable under the Socio-Demographic profile of respondents with respect to their Age with a correlation coefficient of .293 hence the hypothesis which states that there is a significant relationship between respondents' level of compliance with standard precautions in infection control with the aforementioned Socio-Demographic Profiles is accepted.

This implies that although the majority of the previously mentioned Hospital-related Factors and Socio-Demographic Variables, with the exception of their Age, their level of compliance varies mainly with their Age. This negates the obtained result from

the study of Fe Tuzon (2011) that level of compliance is more or less the same irrespective of the mentioned socio-demographic and Hospital related variables. Non-compliance to standard precautions may be attributed to other factors such as attitudes and knowledge towards infection control which are hard to modify.

Table 12

Correlation Coefficient Showing the relationship Between the Health Care Worker Respondents' Level of Compliance to Infection Control measures and their Socio-Economical Factors and Hospital-Related factors

| Socio-Demographic Profile | Handwashing/ Hand hygiene | Use of PPE | Handling and Disposing of Sharps | Other Protective Practices | As a Whole |
|----------------------------------|----------------------------------|-------------------|---|-----------------------------------|-------------------|
| Socio-Demographic Profile | | | | | |
| Age | 0.146 | 0.262* | 0.245* | 0.170* | 0.293* |
| Sex | -0.036 | 0.082 | -0.079 | 0.061 | -0.017 |
| Civil Status | 0.119 | 0.214* | 0.169* | -0.028 | 0.174* |
| Appointment | 0.062 | 0.177* | 0.163* | 0.134 | 0.193* |
| Highest Educational Attainment | 0.105 | 0.106 | 0.079 | 0.161* | 0.142 |
| Position | 0.125 | 1.780 | 55.269* | 0.111 | -0.026 |
| Length | 0.006 | 0.108 | 0.054 | 0.124 | 0.096 |
| Number Seminar | 0.057 | 0.145 | 0.076 | 0.139 | 0.133 |
| Hospital Related Factors | | | | | |
| Type of Hospital | 1.124 | 4.494 | 8.953 | 0.554 | 0.089 |
| Area of Assignment | 21.101 | 4.296 | 42.028* | 9.504 | 7.187 |

Legend: correlation is significant at the 0.05 level (2-tailed) *

Problem no. 6. What proposed plan of action can be proposed to improve the implementation of the standard precaution in infection control?

Based on the findings of this study, the proposed plan of action to improve the implementation of standard precaution in infection control to the Health care workers in

The First District of Ilocos Sur can be seen on the table below and it will delve onto the indicators that garnered subpar compliance in infection control

Table 13

Proposed plan of action to improve the implementation of standard precautions in infection control

| Proposed plan of action | | | | | | |
|--|---|--|-------------------------|------------|--------|--|
| Low Infection control Measure Indicators along: | Objectives | Programs Plans and Objectives | Locus of Responsibility | Time Frame | Budget | Expected Outcomes |
| <p><i>HCW think that wearing gloves is an alternative to performing handwashing</i></p> <p><i>HCW wash my hands immediately after using waterless or antiseptic hand cleansers/ sanitizers or moist towels</i></p> | <p>To allow HCW to discern that Hand Hygiene is still the paramount measure in preventing the acquisition of HAIs</p> | <ul style="list-style-type: none"> Develop a multidisciplinary team that includes representatives from administrative leadership well as local (unit-level) necessary to identify barriers and ensure adequate resources are maintained Utilize Peer Networking that allows and encourages patients to participate in the hand hygiene practices which promotes persistent salience of its practice Improve the functionality of the Infection Control Committee and Monitoring Team to oversee the practice of | Health Care workers | Year Round | 25,000 | To allow HCW to discern that Hand Hygiene is still the paramount measure in preventing the acquisition of HAIs |

| | | | | | | |
|---|--|--|----------------------------|-------------------|-------------------------------------|--|
| <p><i>HCW do not wash or attempt to wash to disinfect medical/surgical gloves for reuse.</i></p> <p><i>HCW use general purpose gloves (e.g. rubber household gloves) for housekeeping even if blood contact is possible</i></p> <p><i>HCW remove the PPE and clothing when it becomes visible contaminated and before leaving the work are.</i></p> | <p>To maintain the appropriate use of Personal Protective Equipment among HCWs</p> | <p>Infection Control</p> <p>Use of PPE</p> <ul style="list-style-type: none"> • Conduct trainings pertaining to the proper donning and doffing of PPE • Provision of PPE supplies and materials • Assess the competency regarding the utility of PPEs with tests of didactic knowledge and demonstration of proper donning and doffing techniques • Institutionalize policies that support safety, such as keeping records of accidents to healthcare workers and providing follow-up, including post-exposure prophylaxis and availability of hepatitis B vaccination | <p>Health care Workers</p> | <p>Year round</p> | <p>25% of the Institutions fund</p> | <p>To maintain the appropriate use of Personal Protective Equipment among HCWs</p> |
| Handling and Disposing of Sharps | | | | | | |
| <p><i>HCW burn needles immediately after use</i></p> | <p>To reduce Needle stick Injuries among HCW</p> | <ul style="list-style-type: none"> • Intense monitoring of disposal of sharps among health care workers • Provide adequate supply of equipment and puncture proof containers is imperative to ensure adherence to the practice of proper disposal of needles and sharps instruments. • A yearly | <p>Health Care Workers</p> | <p>Year Round</p> | <p>2500</p> | <p>To reduce Needle stick Injuries among HCW</p> |

| | | | | | | | |
|---|--|---|---|------------|------|--|--|
| | | | education program on nosocomial infections and its prevention will help in the retention of knowledge, attitudes and practices among the various categories of HCWs | | | | |
| Other Protective Practices | | | | | | | |
| <i>HCW carefully pour bulk of blood, suctioned fluids, and excretions containing blood and secretions down the drain (drains connected to a sanitary sewer</i> | To observe proper medical waste management and disposal among healthcare workers | <ul style="list-style-type: none"> • Conduct training and seminars about waste management and medical waste disposal • There should be uninterrupted onsite training of HCWs, supportive supervision, and monitoring of their activities related to biological waste handling • Continually subject for Bureau regulation and accreditation for waste management and disposal • Regularly monitor infection rates as well establish dissemination of the data gathered that will bridge between the management and the HCWs | Health care workers | Year round | 2500 | To observe proper medical waste management and disposal among healthcare workers | |

| | |
|---|---|
| <p><i>HCW handle Textiles and laundry in a manner that prevents transfer of microorganisms to others and to the environment</i></p> | <p>helping in implementin g and, disseminatin g improved strategies for prevention of nosocomial infections</p> <ul style="list-style-type: none">• Implement a multimodal infection practices program as well as researcher to elucidate serious causes of failure to comply with SPs. |
|---|---|

Asuncion (2021) concluded that strengthening Compliance with precautionary measures should be paramount across settings where health care is provided and prioritized. Hassan (2018) concluded that to address gaps in infection control adequately, future improvements should commence early in the curriculum of the Higher Educational institutions offering medical courses to ensure substantial changes to address adverse circumstances relative to infection acquisition among their student interns. It is essential to understand that infection control is a shared responsibility; hence it is crucial to policy at National Level. Bekele et al. (2020) suggested that Preparing and providing programmed continuous on-job and upon-hire training on Compliance with standard safety precautions should be very crucial. The healthcare facility should fulfill the provision of personal protective equipment like masks, boots, aprons, and eye goggles.

Safety practices such as availing and accessing safety boxes and running tap water in the work department should be practical and necessary interventions for improving HCWs compliance with standard safety precautions. Healthcare workers should pay attention to their hand hygiene compliance before and between any practices in the healthcare facility. In addition, healthcare workers should provide care considering every patient has the potential to transmit and acquire infectious agents. Strong, consistent internal infection prevention and control supervision should be recommended for healthcare workers.

On the proposed plan of action, it can be seen from the table that along with the practice of handwashing/ hand hygiene, the indicators state that HCW thinks that wearing gloves is an alternative to performing handwashing. HCW *wash their hands immediately after using waterless or antiseptic hand cleansers/ sanitizers or moist towels*. Developing a multidisciplinary team that includes representatives from administrative leadership and local (unit-level) as necessary to identify barriers and ensure adequate resources are maintained should be averted. It is essential to utilize Peer Networking that allows and encourages patients to participate in hand hygiene practices, promoting its practice's persistent salience. To Improve the functionality of the Infection Control Committee and Monitoring Team to oversee the preparation of Infection Control Furthermore, the Conduct of such activities to employ a continued practice of hand hygiene, and all healthcare workers who practice patient care and other hospital-related activities should participate and must perpetually practice it. The Institution should at least allocate a minimum of 25,000 pesos for purchasing necessary supplies to maintain high Compliance with handwashing or hand hygiene practices.

On the use of Personal Protective equipment, the indicators state that

1. *HCW does not wash or attempt to disinfect medical/surgical/ examination gloves for reuse;*
2. *HCW use general-purpose gloves (e.g. rubber household gloves) for housekeeping even if blood contact is possible;* and
3. *HCW remove the PPE and clothing when it becomes visible contaminated and should have a reduced practice assessed through an annual monitoring on the use of personal protective equipment before leaving the work area. This will be achieved through the Conduct of training about the proper donning and doffing of PPE; there should be Recommendations allowing more accessible procurement of PPE sets forwarded to the Bid committee and a regular Provision of PPE supplies and materials. The people involved in these activities should be the concerned health care workers and heads of Hospital departments involved in patient care and other hospital activities. It should be noted that the actions needed to improve the practice of good use of PPE should be quarterly annually and must be provided with enough funding to support these activities.*

On handling and disposing of sharps, the indicator that states that HCW burns used needles immediately yielded the lowest mean rating along the practice of handling and disposing of sharps. HCWs should not promote The practice mentioned above should once hospitals adopt the use of safety-equipped injections. Practices such as intensifying monitoring of sharps disposal among health care workers, providing an adequate supply of equipment and puncture-proof containers are imperative to ensure adherence to the method of proper disposal of needles and sharps instruments., and Conducting a yearly education program on nosocomial infections. Its prevention will help retain knowledge, attitudes, and practices among the various categories of HCWs. The objective to reduce Needle stick Injuries among HCW should be the top priority among institutions that deliver health care.

In other protective practices, the practices state that *HCW carefully pours the bulk of blood, suctioned fluids, and excretions containing blood and secretions down the drain (drains connected to a sanitary sewer, and HCW handles Textiles and laundry in a manner that prevents the transfer of microorganisms to others and to the environment* should be observed time and time again among health care worker respondents. The improvement of these practices should be tailored from the Conduct of training and seminars about waste management and medical waste disposal; There should be uninterrupted onsite training of HCWs, supportive supervision, and monitoring of their activities related to biological waste handling; Continually subject to Bureau regulation and accreditation for waste management and disposal; Regularly monitor infection rates as well establish dissemination of the data gathered that will bridge between the administration and the HCWs helping in implementing and, disseminating improved strategies for prevention of nosocomial infections; Implement a multimodal infection practices program as well as researcher to elucidate serious causes of failure to comply with SPs.

Furthermore, HCWs can maintain high Compliance of healthcare workers to the different parameters in the practice of standard precautions in infection control via a Mixed media education intervention which can substantially improve their knowledge, attitude, and Compliance with SPs. Increased use of SPs is vital to protect the health of nurses, patients, and other healthcare professionals from healthcare-associated infections.

Chapter 4

CONCLUSIONS AND RECOMMENDATIONS

This chapter shows the conclusions and recommendations that were derived from the analysis and interpretations of the findings of this study

CONCLUSIONS

This study was conducted to determine the level of Compliance with standard precautions in infection control among health care workers in First District of Ilocos Sur. It described the Socio-Economic Profile and Hospital Related Profiles of the respondents and their level of Compliance with Handwashing/hand Hygiene, Use of Personal Protective Equipment, Handling and Disposing of Sharps, and Other Protective Practices. It also purported that the respondents' Socio-economic and Hospital Related profile is significantly related to their level of Compliance with the standard precautions. A comparison of the level of Compliance with standard precautions between Public and Private Institutions was also measured.

The respondents were Health Care Workers in the First District of Ilocos Sur. Health Care workers selected are Medical Technologists, Nurses, Radiologic Technologists/ X-ray Technicians, Nursing Attendants, Midwives, and Health Aide. Respondents in this study are officially employed in their respective Institutions.

A descriptive correlational research design was utilized in this study. Data were gathered through an adopted questionnaire checklist and further improved by the researcher. The researcher treated it with frequency and percentages to describe the Socio-economic and Hospital Related Profile, mean to convey the level of Compliance to standard precautions in infection control, and Chi-squared Test and T Test to determine the difference between Private and Public Hospital levels of Compliance to standard Precautions in Infection Control.

SOP #1 Most of the health care worker respondents are young, female, single, occupying a permanent status, worked as a nurse, still young in the service, only have at least 1-2 pieces of training for infection control, affiliated in tertiary Public Hospitals, and assigned in the Laboratory. **SOP #2:** Health care workers in the first district of Ilocos Sur are Highly Compliant with Standard Precautions in Infection Control. They comply with the known guidelines for Handwashing/ Handhygiene, handling and disposing of Sharps, use of Personal Protective Equipment, and other protective practices. **SOP #3:** As a whole, it was ascertained that the problems encountered by the respondents in implementing Standard Precautions in infection control are moderately serious, which means that the Institutions where they are employed are not complacent in the performance of Standard Precautions in Infection Control. **SOP #4:** There is a significant difference in Compliance with Standard Precautions in Infection Control levels between Public and Private Institutions in the First District of Ilocos Sur. It was discovered that The level of Compliance with infection control of the private Institution is higher than that of the public Institution. This is because there is a significant difference as manifested in the mean ratings along Handwashing/ Hand Hygiene and Handling and disposing of Sharps, which is higher in Private institutions compared to Public Institutions. **SOP #5:** Only the area of assignment of the two Hospital related profile of the health care worker respondents had a bearing on their level of Compliance with standard precautions in infection control; however, when taken singly, respondents' age had a significant relationship to their level of Compliance to standard precautions. **SOP #6:** An action plan was created based on the data collated from the result of the present study to improve Compliance with standard precautions in infection control among Health care workers.

RECOMMENDATIONS

The researcher recommends that The Health care workers should be perpetually maintained "highly compliant" level of Compliance to standard precautions through continuous and uninterrupted enforcement of established Infection control practices. Institutions should quarterly give Reinforcements such as training, webinars, and in-house seminars. guidelines and Policies should be from time and again revisited to see further improvements. The Institution's administrations should provide regular and free education on preventing the spread of Nosocomial infections. With emerging Infectious diseases, as evidenced by the ravaging of the Covid-19 pandemic, facilities and equipment should also be improved to meet international specifications to mitigate the spread of diseases. Training and education should be recommended for all hospital health care and institutional workers for general infection control education and adjunct infection control measures. In all areas where health care is delivered and where patient care is highly indicated, the Institution should provide more than enough supplies for the uninterrupted and consistent practice of Standard precautions. The Hospital should periodically confer on the existing International guidelines for Infection Control measures. The Institution should look into the new and current policies and changes they can adopt to meet the institution's capacity to provide adequate supplies and training. Healthcare workers should faithfully commit to developing themselves and affecting their practice, provided by accredited organizations regulated by the Professional Regulation Commission. Ensure participation Organized national programs or campaigns shown to have promoted IPC in ensuring effective implementation of strategies and guidelines and have a favorable effect on HCWs' IPC knowledge and improved Compliance. The health care workers in the Different institutions are categorized accordingly; therefore, training sessions on infection control should be tailored to specific audiences to acclimatize to their information needs. Another study should be conducted to measure the level of

Compliance with standard precautions in infection control in the different hospitals in neighboring provinces to look at their extent of Compliance with infection control.

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