An-Najah National University

Faculty of Graduate Studies

COMPLIANCE WITH COVID-19 PROTECTIVE MEASURES AMONG HEALTH CARE PROVIDERS IN MATERNITY WARDS AND REVIEWING THE RELATED HOSPITAL POLICIES AND GUIDELINES IN WEST BANK GOVERNMENTAL HOSPITALS, 2021

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Dedication

Idedicate this thesis

To my beloved homeland "palestine"

To my mother and father, may God preserve them... Without them, I would not have existed in this life.... From them I learned to love my life.... Challenge difficulties... and achieve the impossible.

To my brother and sisters... who did not hesitate for a moment to support and assist me in completing my educational career

To my honorable professors.... From them, I learned the letters..... and learned how to pronounce words..... and formulate phrases.... They showed me the path of science and knowledge.

To my friends and colleagues... companions of my path... .. .. good companionship... the fragrance of love... and the roses of friendship

To them,idedicate my thesies

Acknowledgment

At the beginning of my speech, I must first thank my God Almighty, who enabled me to reach this high scientific level and helping me through all the difficulties .

My beloved father, my dear mother, my brother and sisters .....I cannot forget your support for me and what you have given for me. You have all my love, and no matter how many words of thanks I say to you, I will not give you what you deserve.

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I would also like to thank the members of my committee for making my defense an enjoyable moment, and for your wonderful comments and suggestions, thank you.

Declaration

I, the undersigned, declare that I submitted the thesis entitled:

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I declare that the work provided in this thesis, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

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Abstract

Background: Coronavirus disease 2019 (COVID-19) emerged as most arguable worldwide danger facing global health at present time .Healthcare workers (HCWs) particularly nurses, midwives, and doctors are at higher risk of infection from occupational exposure in different healthcare settings . Following standard precautions(SPs) in all situations would be one of the most effective ways to reduce cross-transmission, regardless of whether the patients are suspected or confirmed to be infected

Objectives: The study aimed at evaluating the compliance with COVID-19 Infection prevention and control (IPC) measures and identifying associated factors among health providers in maternity wards in west bank hospitals

Methodology: A cross-sectional study was conducted in maternity departments at 12 west bank governmental hospitals. Data were collected from 267 participants using a convenient sampling method. Using a pre-validated questionnaire developed from combining the contents of 3 different literature questionnaire .The Statistical Package for Social Sciences (SPSS) version 22was used to analyze data and the study hypotheses were examined at the level of statistical significance (a $\leq$0.05)

Results: The results showed that the majority (85.1%)of the participants had a high level of compliance regarding IPC (infection prevention and Control) measures for COVID-19.The results found no significant differences in IPC measures between compliance ,sociodemographic factors ,individual factors and institusional factors .

Conclusions: Despite that the majority of the participants had high level of compliance of IPC measures for COVID-19.Good compliance came from avaliabilty of suffiecient supplies for hand washing and availability of Personal Protective equipments (PPEs). However , Complete non-compliance among healthcare providers was due to IPC guidlines and protocols for COVID-19 in the maternity wards were not clear,not always known by them ,and there were no always monitoring and evaluation of it. More observational studies are recommended to evaluate the adherance of IPC measures for COVID-19 and holding regular training courses about current and any up dated information of IPC measures for COVID-19 to inform the health care providers of all that is new and assure compliance through rigorse monitoring

Keywords: Compliance, health care providers, COVID-19, protective measures, west bank

Chapter One

Introduction

Coronavirus disease 2019 (COVID-19) emerged as most arguable worldwide danger facing global health at present time (Amanya et al., 2021). The first case of COVID-19 was discovered in December of 2019, in Wuhan city of China. The virus that causes Covid-19 is associated with extreme acute respiratory syndrome and is called coronavirus 2 (SARS-CoV-2), It is a new virus that causes respiratory disease in humans and may be transmitted from person to person through respiratory droplets when someone with COVID-19 sneezes, coughs or speaks, droplets are released (El Zowalaty et al., 2020). Recent evidence also suggests that Covid-19 infection has been spread with a risk of causing asymptomatic infection to healthcare workers (Lee et al., 2020). On March 11, 2020, the World Health Organization (WHO) declared the COVID-19 virus a global pandemic (Wong et al., 2021).

Healthcare workers (HCWs) particularly nurses, midwives, and doctors, are at higher risk of infection from occupational exposure in different healthcare settings than the general public, and following standard precautions in all situations would be one of the most effective ways to reduce cross-transmission, regardless of whether the patients are suspected or confirmed to be infected. (Verbeek et al., 2019) In the fight against COVID -19, health care providers are placing themselves in grave danger. COVID -19 infected and killed many healthcare personnel, and many of them were isolated to prevent the sickness from spreading (Nagesh et al., 2020).

The purpose of standard precautions is to ensure that the minimal measures used are followed in healthcare. It was changed and updated in response to changing hazards of exposure among healthcare workers (HCWs); to ensure the sufficiency and timeliness of standard precautions ; to promote healthcare workers and patients well-being (Wong et al., 2021).

Many governments throughout the world imposed various restrictions to reduce Covid-19-related morbidity and mortality. However, only a few countries were successful in halting the spread of the disease, with many developing countries, notably those in Sub-

Saharan Africa, failing to do so (Atnafie et al ., 2021). On the other hand, the Chinese government

Mandated HCWs to strictly enforce uniform preventive measures and strengthen protective measures against droplet isolation, touch isolation, and air isolation to effectively reduce the risk of COVID-19 transmission in healthcare institutions and standardize HCW behaviors. Hand hygiene, medical masks, personal protective equipment (PPE), sterilization of patient-care equipment and linen, and other (IPC) interventions are all recommended by the WHO (Lai et al., 2020).

World Health Organization (WHO) recommends keeping a physical distance of a minimum of 1 meter (3 ft) between people to avoid infection (WHO, 2021a). In addition to proposing standard precautions, the WHO proposes a series of infection control measures in the workplace, both at the individual and organizational level, to protect healthcare professionals (Beyamo, et al., 2019) and improve the response of healthcare systems to COVID -19 (Wong et al ., 2021).

Current pandemic crisis has modified the routine of healthcare practices, as new issues have emerged; they have impacted obstetric and childbirth healthcare services, which cannot be discontinued. Because Covid-19 infection in pregnancy is a new virus with limited evidence, therefore decisions about preventive, diagnostics, and treatment should be based on prior experience with clinical judgment, and common sense while dealing with viral illnesses (Poon et al., 2021).

Already immunization has been recognized as the foremost effective strategy of avoiding episodes and lessening morbidity and mortality, particularly for healthcare laborers. (Huynh et al., 2021) .

One of the most prominent goals of vaccinations of all kinds is to vaccinate the largest number of people around the world and to produce community immunity against the Coronavirus. (WHO .2021b, Huynh et al., 2021).

Benefits of vaccines includes: protecting people against COVID-19, prolonging lives, and preventing widespread social disruption,it can help patients and caregivers avoid out-of-pocket therapeutic costs, and misfortunes in compensation by preventing bouts of preventable infection. (Arindam et al,. 2020)

Also, COVID-19 vaccinations should not be withdrawn from pregnant women, according to a new recommendation of the Centers for Disease Control (CDC) and Prevention in collaboration with the American College of Obstetricians and Gynecologists and the American Academy of Pediatrics (Shimabukuro et al,. 2021). Although, COVID-19 immunization in pregnancy are still constrained and, hence, most restorative social orders and organizations prompt that an immunization ought to be advertised to pregnant ladies after examining the dangers and benefits and the need for security information(Bookstein Peretz et al., 2021)After conducting many studies on the effectiveness of vaccines for pregnant and lactating women. The Pfizer vaccine has proven to be effective and safe after giving it to pregnant and lactating women (WHO.2021b).

Concerning maternal coronavirus infection during pregnancy, two critical parameters have been underlined. First, the coronavirus (SARS-CoV and SARS-CoV-2) cannot be transferred vertically from mothers to newborns. Second, SARS or COVID-19 infection in the mother should not be an indicator of impending labor. The mother's respiratory stituation if she require for oxygen supplementation , heightening of ventilator ,confinement of chest extension ,and existing of any obstetric indications should be the only determinants of when and how she gives birth (Trevisanuto,2020).

Despite a large increase in preparedness and progress as a result of previous epidemics, HCWs' compliance with ideal practices is still insufficient in general, and compliance rates differed across different parts of the (SPs) (Kim & park,2020, Lim et al., 2021).The prevention of Coved -19 infection in health care workers necessitates a multi- coordinated approach that incorporates Occupational Health and safety (OHS) measures and also (IPC). Also, incorporating appropriate clinical measures at personnel levels is recommended to ensure the transmission of infection related to healthcare services (lai et al ., 2020).

The purpose of the study is to assess the compliance level of health care providers in the maternity wards to COVID-19 protective measures, identify factors affecting the health care provider compliance to COVID-19 protective measures, and review the hospital policies and guidelines related to COVID-19 protective measure that issued during the pandemic

1.1 Background

1.1.1 COVID-19

1.1.1.1 Definition of COVID

COVID-19 is an illness caused by the SARS-CoV-2 virus. COVID-19 causes modest symptoms in the majority of people, but it can cause serious illness in others. Although the majority of patients with COVID-19 recover within weeks after becoming unwell, some people develop post-COVID symptoms. It is more prone to cause serious illness in the elderly and individuals with specific underlying medical disorders. (WHO.2021a)

1.1.1.2 Transmission of COVID -19

COVID-19 transmits through the air when an infected person exhales virus-containing droplets and very minute particles. Other people's eyes, nostrils, and mouths may be irritated by these drops and particles. These beads and particles can be breathed in by other individuals or arrive on their eyes, noses, or mouth. In a few circumstances, they may contaminate surfaces they tou ch. Individuals who are closer than 6 feet from the tainted individual are most likely to urge contaminated (WHO.2021a, CDC.2021a , Wu et al., 2020).

1.1.1.3 Signs, symptoms, and complications of COVID-19

Pneumonia was the first clinical symptom of the SARSCoV2 linked disease COVID19 that enabled case discovery. Theaverage incubation duration is five days to 7 days and the median incubation period is three days (range: 0–24 days). Fever, cough, nasal congestion, tiredness, and other upper respiratory tract infection symptoms usually appear after less than a week in symptomatic patients. (WHO.2021a, CDC. 2021a,Velavan et al., 2020, El Zowalaty et al,. 2020).

If a fever or cough is accompanied by difficulty breathing or shortness of breath, or dyspnea and severe chest symptoms suggesting pneumonia chest discomfort or pressure, or loss of speech or movement, people of all ages should seek medical assistance immediately. (Velavan et al., 2020, WHO.2021a).

In rare situations, children can have aserious infection situation a few weeks after infection.About 15% become extremely ill and need oxygen,and 5% necessitating

immediate medical attention.Respiratory failure, severe respiratory difficulty problem, sepsis and septic shock, thrombo-embolism, and/or multi-organ failure, including damage to the heart, liver, or kidneys, are all potential causes of mortality.. (Velavan et al., 2020, WHO.2021a, CDC.2021)

1.1.1.4 Types of COVID-19 diagnostic tests

- In most cases, an atomic test is used to confirm SARS-CoV-2 infection.The most often used atomic test is the Polymerase Chain Reaction (PCR).Swabs are used to collect samples from the nose and/or throat.As a result, the atomic test is used to confirm the presence of an active infection, which occurs a few days after exposure and around the time symptoms mainfest. (WHO .2021a ,CDC.2021a)
- Rapid antigen testing (also known as fast symptomatic tests) was used to identify viral proteins (known as antigens).Also ,swabs is applied to take samples from the nose and/or throat.These tests are less expensive than PCR and will provide results faster, however they are generally less exact.When there are a lot of viruses circulating in the population and a sample is taken from a person when they are at their most contagious, these tests perform best. (WHO .2021a ,CDC.2021a)

1.1.1.5 Preventive measures of COVID-19

Simple preventive measures from COVID -19 such as:
Physical distancing ,wearing a mask, keeping rooms well ventilated ,avoiding crowds and close contact , and frequently wiping your hands, and coughing into a bent elbow or tissue (WH.2021a, CDC.2021a, lee et al., 2020).

1.1.2 Standard precaution

1.1.2.1 Definition of standard precautions

Standard precautions were previously called Universal Precaution. Defined as "the bare minimum of infection prevention procedures that should be implemented to all patient care" regardless of whether the patients' infection status is suspected or confirmed, and are utilized in any situation where health care is provided. (CDC. 2021b).

These safety measures ought to be implemented at any site where health services are conveyed and always affecting blood, body liquid, discharges, and excrements of the patients have infectivity possibilities (CDC.2007, Al-Faouri et al., 2021).

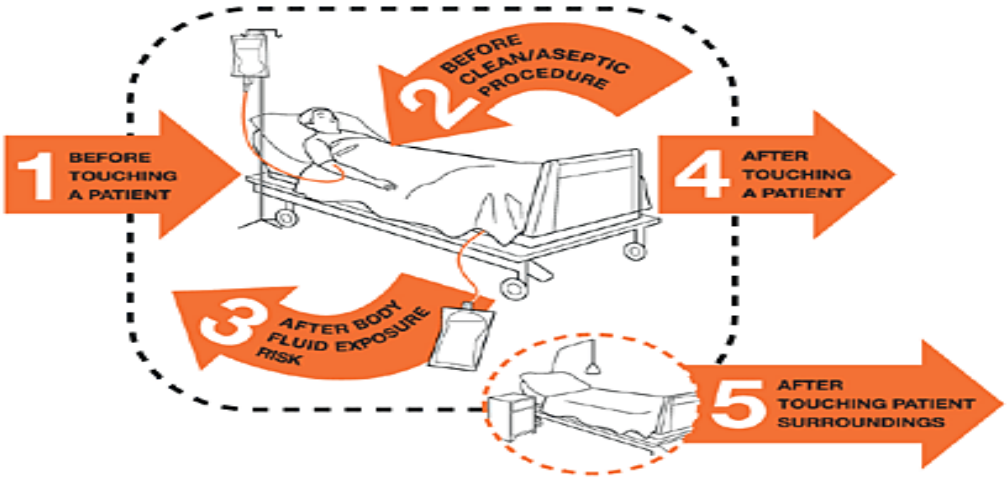
1.1.2.2 Types of Standard precautions

- Perform hand hygiene (WHO .2009, CDC .2011)

  It could be a major component of standard safety measures and one of the foremost viable strategies to stop the transition of pathogens related to wellbeing care (CDC .2011).
- Hand washing (40–60 sec): moisten hands and apply cleanser to cover all zones of the hands; rub all surfaces; flush hands and dry altogether with a single utilized towel; utilize a towel to turn off the faucet.(WHO.2009,CDC.2011).

Figure 1

The World Health Organization (WHO) in (2009), focusing on guidelines known as the "Five Moments for Hand Hygiene (Toney et al., 2020)



- Use PPE. Standard Precautions for All Patient Care, (CDC .2021c)

  Personal protective equipment (PPE) refers to a group of protective equipment which includes: clothing, protective caps, gloves, confront shields, goggles, facemasks and/or respirators or other hardware planned to ensure the wearer from harm or the spread of disease or infection.PPE is commonly utilized in wellbeing care settings such as hospitals, doctor's workplaces, and clinical labs.(WHO.2009).

The sort of PPE utilized will differ based on the level of safety measures required, such as standard and contact, bead, or airborne contamination segregation safety measures. The strategy for putting on and evacuating PPE ought to be custom-made to the particular sort of PPE. PPE Sequence. (CDC.2021c)

1.1.2.2.1 Gown

It is dress wearing to protect your skin and avoid getting your clothes soiled during activities that are likely to result in sprinkles or spraying of blood, body fluids, emissions, or excretions .Health Care Providers (HCPs) should not utilize more than one isolation gown at a time when caring for patients with suspected or confirmed SARS-CoV-2 infection, and reusable gown ought to not be reused sometime recently washing since reuse gown dangers for conceivable transmission of microbes among HCPs and patients that likely exceed any potential benefits according to CDC. (WHO.2007,CDC.2021c)

1.1.2.2.2 Gloves

- when coming into contact with blood, any body fluids, secretions, excretions, mucous membranes, or non-intact skin
- After interaction with any potentially infectious substances, switch between duties and procedures on the same patient.
- Remove after each use, before touching non-infected materials or surfaces, and before moving on to the next patient. After you've removed your gloves, wash your hands quickly

When caring for suspected or confirmed COVID-19 patients, the WHO does not suggest using double gloves (WHO .2007)

1.1.2.2.3 Facial protection

Protection for the eyes, nose, and mouth during actions:

- Wearing a surgical or strategy veil and eye assurance (eye visor, goggles) or (2) a confront shield to ensure mucous films of the eyes, nose, and mouth amid exercises that are likely to produce sprinkles or sprays of blood, body-liquids, discharges, and excretions.

– Wearing safety glasses with extensions to cover the sides of the eyes (e.g., trauma glasses HCP who may be at an increased risk of severe illness from SARS-CoV-2 infection, such as those of severe resource constraints when eye protection is unavailable (WHO.2002, CDC.2021c)

1.1.2.2.4 Face masks and respirators :

Face-covering protection gear. They're made to protect both the person wearing them and the local area from breathing contaminants (such respiratory toxins or bacterial/viral pathogens. Distinctive covers can be classified. FFP (filtering face piece)masks are available with or without a valve (Figs. 2 and 3). FFP masks having valves allow air to move from within the mask to the outside.An example :N95 masks, make breathing easier.The findings demonstrated that the preventive effect was enough against the viruses tested, which included influenza and rhinovirus.

Figure2

FFP (Filtering Face Piece) mask with valve

Figure3

FFP mask without valve

Masks for everyday usage (permanent cloth masks, for example; Fig.4:These masks offer no protection against infection to the user.These masks should not be worn in healthcare institutions, although they are widely recommended for the general public.MNP (medical mouth–nose protection;(Fig.5) is very often known as a "surgical mask."The filtering effectiveness is similar with those of common use masks, and it is designed to keep patients safe.They were licensed for usage by medical personnel and guarantee only patient protection against aerosols.Whereas a full coverage covers the complete confront, a half-mask fits from beneath the chin to over the nose, a quarter cover fits from the beat of the nose to the best of the chin. (Matuschek et al., 2020)

Figure 4

Homemade face mask for everyday use

Figure 5

Surgica

– Healthcare respirators or medical respirators: It is a device that protects you from inhaling potentially harmful substances like chemicals and infectious particles. There are various types of respirators, each with its own set of cautions, limitations, and usage restrictions. Some respirators must be tested to ensure a secure fit on the face, and they should not be worn if the wearer has facial hair (CDC .2021c) .

Most respirators have been tested and evaluated in accordance with the standards.KN95 respirators are perhaps the most generally accessible internationally accepted respirators.The N95 respirator is really a filtering facepiece respirator (FFR) it has at most 95% filtering effectiveness according to the US National Institute for Occupational Safety and Health (NIOSH).Its most commonly used N95 types in hospitals are the 3M 1860, 8210, and 8511.They are made up of three layers: external, filter, and interior layers (Fig 6).(Yim et al., 2020)

KN95 respirators are followed by Chinese requirements .Although some of these provide equal filtration to the N95 respirator, they are not NIOSH recommended. In response to worries about an inadequate amount of N95 respirators during the COVID-19 epidemic, the FDA issued an umbrella Emergency Use Authorization (EUA) for KN95 respirators.External, filtering, cotton, and inner layers make up KN95 respirators (Fig 7). (Yim et al., 2020)

Figure 6

N95 respirator

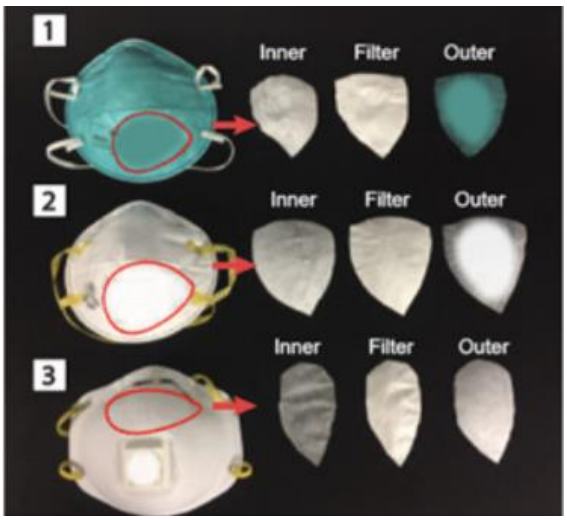
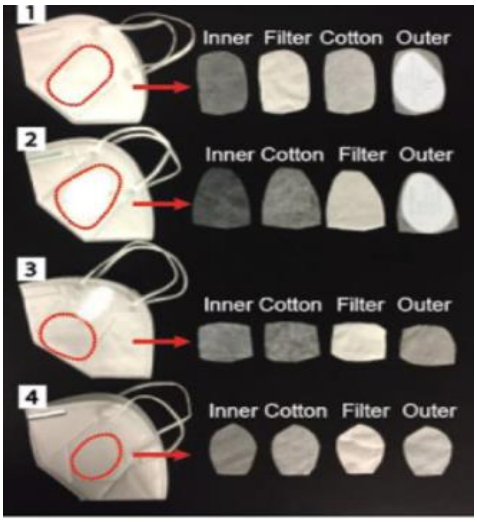


Figure 7

KN95 respirator



What you should know about international respiratory protection:

- They're made to meet criteria that don't always include a quality criterion.
- Based on the standard these are created to accommodate, they filter different level of particulates in the air.
- When properly adjusted, they form a tight seal around your face.
- Because not all respirators fit the same, it's critical to choose one that suits the face and seal well. (Yim et al., 2020)

Wearing international respirators is not recommended:

- If there are any exhaust valve, vent, or any other apertures, they should be used.
- If it's difficult to breathe during wearing them, discard them.
- Whether they're dirty or filthy, don't use them.
- Various masks or respirators are accessible.
- As an alternative for National institute for occupational safety (CDC.2021c, Yim et al., 2020)

1.1.2.2.5 Respiratory hygiene and cough etiquette (WHO .2021c)

A set of disease strategies aimed at limiting the spread of respiratory infections via droplets or airborne pathways.

Patients who may have undiscovered highly infectious respiratory infections are the focus of the strategies.

- Anyone who is showing signs of disease, such as coughing, congested, a stuffy nose, or an increase in respiratory droplets.

Measures to Control Respiratory droplets :

- When sneeze or cough, cover your mouth and nose with the a tissue.
- After using tissue, discard of them in the nearest garbage receptacle.
- After coming in respiratory droplets or infected items or materials, wash your hands.
- Encourage persons who are suffering from signs to stay much further away from those people as feasible. (WHO .2021c)

1.1.2.2.6 Injection safety practices:

- Avoidance of needle adhere and wounds from other sharp equipment
- Utilize care when:
    - Handling needles, surgical blades, and other sharp equipment or devices
    - Cleaning utilized instruments
    - Disposing of utilized needles and other sharp types of equipment (WHO .2002)

1.1.2.2.7 Safe waste management

- Treat garbage sullied with blood, body liquids, discharges, and excretions as clinical garbage according to local controls.
- Human tissues and lab waste that's straight forwardly related to samples preparation ought to moreover be treated as clinical garbage.
- Dispose of single utilize things properly (WHO.2009, CDC.2007)

1.1.2.2.8 Proper linens:

Holder, transport, and handle utilized material in a way which:

- Avoid skin and mucous film exposures and defilement of clothing.

– Avoids exchange of pathogens to any patients and or to the surrounding environment (WHO.2009, CDC.2007).

1.1.2.2.9 Environmental cleaning:

Ascertain that cleaning and disinfection processes are carried out regularly and correctly.

Cleaning environmental surfaces using water and cleaners, as well as disinfectants routinely used in hospitals (such as sodium hypochlorite), is a safe and effective method (WHO.2021c)

1.1.3 Vaccine of COVID-19

1.1.3.1 Definition of vaccine

A subestance that stimulates a person's immune system to build immunity to a specific disease, therefore protecting them from it.Vaccines are administered through different routes :needle injections, orally and via nasal spray.(WHO .2021b).

1.1.3.2 Facts about vaccinations

– The COVID-19 vaccine will not make a person sick.The COVID-19 vaccine teaches our immune systems how to recognize and fight the infection that causes COVID-19.

– This substance may induce negative effects such as fever in some people.These side effects are common and indicate that the body is strengthening its defenses against the COVID-19 virus ((WHO .2021b)

According to WHO, at least seven different vaccinations have been administered in many countries as of February 18, 2021, and healthcare workers (HCWs) are the greatest priority for vaccination. In addition, more than 200 other vaccines are in the works, with more than 60 of them in clinical testing (WHO.2021b).Although giving different vaccinations the same result, there are many differences in the characteristics of these vaccinations :(WHO .2021d)

.1.3.3 Types of vaccinations

1.1.3.3.1 Complete virus vaccine

Whole virus technology relies on making a vaccine that contains certain parts of the virus or a complete copy of the virus, which can be divided into two parts:Live attenuated vaccines and inactivated Vaccines,in these types stimulate the immune system's response, but without causing pathogenic symptoms.An example of this technology is the Chinese-origin Sinopharma and Sinovac vaccines, which are based on the use of an inactivated version of the Covid-19 virus.(WHO .2021d, Han et al ., 2021)

1.1.3.3.2 DNA Vaccine

The technology to produce a vaccine using messenger RNA virus (messenger RNA) is a modern technology, When the body is injected with this vaccine, depends on the use of the immune-stimulating part inside the genetic material of the modified genetic material of the virus to produce proteins on the cell surface and thus identify these parts in the event of exposure to the Coronavirus . (WHO .2021d, Kyriakidis et al ., 2021, Han et al ., 2021).

Examples of this technique include Pfizer-BioNTech the German-American Pfizer vaccine which is the first vaccine that has been used. Moderna: the American Moderna vaccine is produced using the same technology used to produce the Pfizer vaccine, but it is distinguished by its tolerance of higher temperatures during storage and distribution. (WHO.2021b, Kyriakidis et al ., 2021).

1.1.3.3.3 Viral vector vaccine

This method relies on the use of a genetically modified and inactivated vector virus, which carries the genetic code of the COVID- 19 virus responsible for the production of a specific type of virus surface proteins, and thus recognition and resistance in the event of infection with the Coronavirus. An example of this technology: Johnson: the American Janssen vaccine. Sputnik vaccine in Russia,and AstraZeneca: the British-origin AstraZeneca-Oxford vaccine. Despite concerns that this vaccine may cause blood clots in some people, the vaccine has not been proven to cause this, and

therefore it is still used as an effective vaccine to date. (Kyriakidis et al ., 2021, Han et al ., 2021)

Despite the different vaccinations produced to fight corona virus infection , the side effects associated with these vaccines are generally mild symptoms, and usually disappear within a day or two after vaccination, and the following symptoms include:

- General fatigue in the body.
- Pain in various muscles of the body.
- Pain, swelling, and redness where the vaccine was given.
- headache.
- A slight rise in temperature and chills.
- The vaccine may cause an allergic reaction (anaphylaxis) in some rare cases, whose symptoms appear immediately after receiving the vaccine.(WHO .2021d, Kyriakidis et al ., 2021, Han et al ., 2021)

1.2 Literature review

Many studies have examined the relationship between compliance with Covid -19 protective measures and associated factors such as socio-demographic factors including age, sex, education level, occupation, working hours and work experience, and knowledge, attitude and institutional factors, and others. Covid -19 is a very universal disease affecting millions of people around the world; therefore, it is important to clarify the factors affecting healthcare workers' compliance with Coved -19 preventive measures.

A quasi-experimental study was carried out by Amira et al,. 2021. The study aimed to see how an educational program for maternity nurses affected their knowledge of preventive measures in the labor unit during the pandemic of COVID 19. A convenient sampling of total nursing (90 nurses) using an online meeting was held at the Benha University Hospital's Obstetrics and Gynecological Department. It used a structured questioner including three parts. The results showed a strong statistically significant difference between pre-and post-program p value=0.001, 41.1 percent of nurses had bad knowledge pre-program compared to 80 percent of nurses who had good knowledge post-program. In terms of overall attitude, 32.2 percent had a negative attitude

(definition in annexes) before the program and 90 percent had a good attitude thereafter, with substantial variations. And there is significant difference in all other aspects of attitude between before and after the program (p value=0.001). Furthermore, 32.2 percent of nurses indicated bad self-reported practices before the program, but 90% reported excellent practices thereafter.

A study was conducted by Amanya et al,. 2021 an online cross-sectional descriptive study, aimed to assess the knowledge and compliance with Covid-19 infection prevention and control rules amongst health care workers in territorial, referral hospitals in northern Uganda. Data were gathered from 75 health workers using a self-administered, structured, online questionnaire. The study showed most health workers had adequate knowledge 69%, sufficient compliance 68% with Covid-19 IPC. Sufficient compliance was associated with practicing in Covid -19 IPC p=0.039, getting to Covid-19 IPC at workstations p=0.039, and having powerful institutional support p=0.031. but, there was no statistically significant relationship between knowledge and compliance with IPC p= 0.07. Also, No statistically significant association between Covid-19 IPC knowledge or compliance and the socio-demographic factors of health workers, including age, sex, education level, occupation, working hours, and work experience.

Another online cross-sectional study was done by Wong et al., 2021 aimed to assess the extent of compliance with the infection prevention and control practices among health care workers in various health care settings and its relationship with their views on the environment of workplace infection during the COVID-19 pandemic. It was done on 16,500 nurses; they fill out an online self-administered questionnaire.The study results showed the respondents were discontented with work infection and prevention measures .Their compliance was comparatively low once having correct patient handling (54%) and implemented invasive procedures (46%). A statistical method model established that the standard of compliance of the quality precautions was completely related to the satisfaction on infection prevention , the highest level of compliance was conjointly considerably related to operating in the selected team and having the chronic condition of the respondents among risky and inpatients clusters.

Also, A descriptive cross-sectional study was carried out by Ashinyo et al., 2021 aimed to evaluate compliance of healthcare workers with IPC measures in Ghana's COVID-19 treatment centers, it was conducted on 424 participants of healthcare workers in four COVID-19 treatment centers situated in Greater Accra Data were gathered using WHO COVID-19 risk assessment questioner. Results showed compliance of IPC through healthcare communications was 88.4% for hand cleanliness and 90.64% for PPE use; IPC compliance for hand hygiene was 97.5 percent and for PPE use was 97.5 percent when directing aerosol-generating procedures. Compliance with hand hygiene was substantially lower among midwives (OR:0.29; 95 percent) and pharmacists (OR:0.15; 95 percent) than among registered nurses. Lower adherence was found in healthcare employees who were separated/divorced widowed (OR:0.08;95 percent), those with secondary level training (OR:0.08;95 percent), non-clinical personnel (OR0.1695 percent), cleaners (OR:0.16;95 percent) pharmacists (OR:0.07;95 percent), and those who suffer from shortage PPEs (OR:0.33;95%).

Moreover, a descriptive study was conducted by Kabasakal et al., 2021. The study's goal is to see if there's a link between COVID-19 anxiety and healthcare personnel' and service sector employees' preventive efforts during the epidemic. A total of 735 participants were included in the study including healthcare workers (n=426) and service sector personnel (n=309). Snowball sampling was utilized, results showed the services sector's Fear of COVID-19 scale (FCV-19S) median was 14 and also the healthcare sector's was 17.In the services sector's , there was no relationship among occupational categories and the FCV-19S score. however in the healthcare sector,midwives had such a median FCV-19S score of 21, which was higher than other occupational categories.The healthcare workers believed thay they found greater mean FCV-19S scores than others who had COVID-19 manifestations due to anxiety

. Also, a study was carried out by Ali et al., 2021 The goal of this study was to find out how well HCWs followed SPs for COVID-19 prevention and what factors were involved. In nine different tertiary care institutions, an analytical cross-sectional study was undertaken on 877 HCWs. Universal sampling was used to obtain HCWs. A self-reporting questionnaire was used to obtain the data. Results indicated several HCWs indicated that several roadblocks prevent SPs from the following protocol while caring for patients. Accidents/emergencies, prioritizing patient care to save lives while giving

SPs less importance were among the challenges. The healthcare system, on the other hand, faces significant challenges due to the limited or non-availability of PPE. Another hurdle to HCWs complying with SPs is that PPE often obstructs their ability to conduct nursing skills.

Across-sectional study was conducted by Tang et al,. 2021 in higher education institutions/universities in Hong Kong and Putian, China. It aimed to look at the relationships between demographic variables, perceived threat, perceived stress, coping mechanisms, and adherence to COVID-19 prevention measures among Chinese Healthcare students. Using convenience and snowball sample of 2706 students aged 18 or older who were enrolled in a healthcare program were recruited. They filled out a questionnaire that had six scales for participants. Results showed both social distance and personal hygiene measures were reported to be highly adhered to by the subjects. Compliance with distance and personal hygiene measures was directly predicted by confidence in one's ability to control the current circumstance, wishful thinking, and sympathetic responses. The data imply that male students who are familiar with Hong Kong, have greater clinical experience, and have a low level of confidence in their ability to manage the threat are less likely to follow the COVID-19 preventive measures

A study was conducted by Shah et al ., 2021. Between May and June 2020, an electronic survey was used to conduct a multinational cross-sectional study. The purpose of the study was to see if there are any differences in mental health, knowledge, Attitudes, and practices (KAP) of COVID-19 prevention strategies between healthcare professionals and non-healthcare professionals . A multi-national poll was sent by social media and electronic mail to 36 nations. Participants were 21 years old and worked in healthcare and non-healthcare-related fields. Results found that when compared to non-healthcare professionals. healthcare professionals had a considerably better understanding of personal cleanliness (AdjOR 1.45, 95 percent CI -1.14 to 1.83) and social distancing (AdjOR 1.31, 95 percent CI -1.06 to 1.61). They were 1.5 times more ready to participate in the contact tracing app and had a more positive attitude toward personal hygiene. Personal cleanliness and social distance measures were observed to be highly adhered to. HCPs with high compliance were 1.8 times more likely to thrive and have a strong sense of emotional CI (1.44 to 2.61), social CI (1.55 to 2.78), and psychological CI (1.59-2.85) well-being.

Across -sectional study was conducted by Shekhar et al., 2021. The study aimed to think about attitudes of health workers regarding the COVID-19 vaccine to better address the obstacles to universal vaccination acceptance. An English questionnaire that can be completed online was used. Results showed 6 percent of respondents said they would take the vaccination as before as it became accessible, whereas 56% said they were unsure or would wait for further information. Only 8% of health care workers do not intend to obtain the vaccine. Vaccination acceptance expanded as people got older, were more educated, and got more money. Female (31%) HCWs, Black (19%) HCWs, Latinx (30%) HCWs, and rural (26%) HCWs were less likely than the general study group to require the vaccine before long. Vaccine acceptability was higher among direct medical workers (49 percent). The most prominent concerns for the COVID-19 vaccine were safety (69%), effectiveness (69%), and pace of development/approval (74%) in our survey.

A study was conducted by Huynh et al., 2021. The cross-sectional study aimed to see how well healthcare laborers were accepting the COVID-19 vaccine in two general hospitals in Vietnam. A convenient sampling method was used on 410 healthcare laborers. Using a self-administered questionnaire. It found 76.10 percent of 410 healthcare personnel were willing to be vaccinated. Indicators of acknowledgment were decided that the gather detailing as “vaccine acceptance” was more likely to be positive towards the seen defenselessness and seriousness of COVID-19, seen benefits of immunization, and prompts to activity, but less likely to have the seen boundaries to inoculation compared with the no acknowledgment bunch. Other than that, individuals who had great information concerning the severity of sickness were 3.37 times more likely to have recognized as vaccine acknowledgment $P<0.05$. The statistic components were moreover related to readiness to get the immunization, with members who were staff and gotten COVID-19 data from relatives were less likely to acknowledge the vaccine over those who were specialists and not getting data from relatives.

A study was conducted by Michel-Kabamba et al., 2020. In the Democratic Republic of the Congo . It evaluated healthcare workers (HCWs) knowledge, attitudes, and practices (KAPs). A cross-sectional study was carried out in 23 referral hospitals in three DRC towns (Lubumbashi, Kamina, Mbuji-Mayi). The World Health Organization's (WHO) "Exposure Risk Assessment in the Context of COVID-19" questionnaire was used to

interview a total of 613 HCWs. Doctors (27.2%) and other types of HCWs were among those who took part in the study (72.8 percent). It found Attitudes and practices, on the other hand, scored poorly. Only 27.7% of HCWs were eager to acquire a COVID-19 vaccine if one became available, but 55 percent followed best practices: 49.4% used masks regularly, and, notably, only 54.9 percent employed personal protective equipment (PPE) at work and during patient contact. The usage of social media as a primary source of COVID-19-related information and the category of residency were both positively connected with knowledge level, with HCWs from towns previously afflicted by the pandemic having more positive attitudes. The majority of Congolese HCWs had enough knowledge of COVID-19, however, the majority did not adhere to consistent PPE use, according to the findings.

Another study conducted by Gesser-Edelsburg et al., 2020 used the mixed-methods explanatory design consists of: (1) An online review of 242 HCWs about the utilization of the rules and PPE, and (2) Personal meetings of 15 HCWs chiefs concerning PPE deficiency and the actions they are taking to address it. This study aimed to distinguish and compare: (1) Israeli HCWs' insights concerning the application of formal COVID-19 guidelines and their preventive value, and (2) HCWs chiefs' reaction to HWCs worry in regards to personal protective equipment (PPE) deficiency. The study showed a different distinction between the apparent applicability and preventive value was found for the vast majority of the guidelines. A portion of the rules was seen as more relevant than preventive (hand cleanliness, signage at the entrance, rubbing using alcohol sanitizers at the passageway, and using masks to connect with the symptomatic patient). Others were seen as less appropriate than preventive measures (disallowed assembling of more than 10 individuals, keeping a distance of 2 meters).

Across-sectional study was conducted by Lai et al, 2020 aimed to evaluate the level of change of healthcare workers' self-reported IPC behaviors with the risk of COVID-19 emerging and increasing. It was conducted in two tertiary hospitals with a total of 1386 participants using a structured self-administered questionnaire. It showed HCWs from high-risk departments showed better self-reported experience in most IPC activity coefficients, which ranged from 0.027 to 0.149. In many IPC behaviors, HCWs in risk-affected areas showed higher self-reported compliance (coefficient ranged from 0.028 .113). Nonetheless, when HCWs are in danger of coming into touch with suspected

patients, their IPC habits deteriorate. This may be due to a higher workload and a lack of supplies and resources among those HCWs .

Another descriptive online -cross-sectional study was conducted by Alrubaiee et al., 2020 aimed to determine the knowledge, attitude, anxiety, and fear, and preventive measures among Yemeni HCPs towards COVID-19. It was included 1231 Yemeni HCPs who provided direct healthcare services to patients. It was used a questionnaire developed from previously published studies.The results showed majority of respondents had sufficient knowledge, a hopeful attitude, a low level of anxiety, and high practices in preventive behaviors, with 69.8, 85.10 percent, 51.0 percent, and 87.70 percent, respectively, to COVID-19

Another study was done by Belayneh et al., 2020, aimed to evaluate COVID-19 prevention practices and associated characteristics among healthcare personnel in Northwest Ethiopia. A cross-sectional study was carried Between March and April 2020, 630 healthcare workers in Northwest Ethiopia were surveyed. The study participants were chosen using a multistage sampling process. Data was collected using a pretested and standardized self-administered questionnaire. it showed the total good preventive practice towards COVID-19 was (95 percent CI: 34.8, 42.5). Being a male healthcare provider (AOR = 1.48; 95 percent CI: 1.02, 2.10), having 6–10 years of work experience (AOR = 2.22; 95 percent CI: 1.23, 4.00), and having a negative attitude toward COVID-19 (AOR = 2.22; 95 percent CI: 1.03, 2.22) were all found to be significant to poor COVID-19 preventive practice among healthcare workers. Overall, healthcare personnel's compliance with COVID-19 prevention practices was determined to below.

A study was conducted by (Kim & Hwang, 2020) aimed to assess the knowledge, attitudes, recognize the safe environment, and compliance level of clinical nurses, and identify the factors related to compliance with infection prevention and control practices.A cross-sectional study, using a self-administrated questionnaire on 197 nurses was conducted. The study results found Nurses effectively answered 67.4% of the inquiries in regards to infection prevention and control information, with the lowest right scores, (55%) identified with multidrug-resistant creatures. Attendants exhibited good mentalities toward infection anticipation and control (6.5 of 8) and ideal

discernments in regards to safe surroundings (7.75 of 9). The general compliance score was 87.41 of 100. Nurses' behaviors, seen safe climate, and time of clinical experience had considerable positive associations to compliance. The results demonstrate that institutional help for safe work conditions ought to be joined with continuing training for improving information and nurses' attitudes, particularly in generic wards.

Another cross -sectional study conducted by Beyamo et al ., 2019 aimed to assess health care workers compliance with standard precaution practices and associated factors in public health institutions of Dawuro zone, south west Ethiopia, 2016. Data was collected on 250 health care workers using a pre-tested questionnaire and a basic random sampling technique .It found a total of 250 health-care staff took part in this study .Out of the total respondents, 162 (or 65.0 percent) had followed normal precautionary procedures. Service years of less than or equivalent to five years, standard precaution training , proper hand hygiene, and the availability of personal protective equipment were all independent associated to standard precaution practices.

Another cross-sectional study by Suliman et al., 2018 .The goal of this study was to evaluate Jordanian nurses' knowledge and practices regarding isolation precautions. A self-questionnaire and an observational checklist were developed based on the CDC's 2007 isolation precautions guidelines. It found that a total of 247 questionnaires were returned out of 400, representing a 61.7 percent response rate. The findings revealed that the majority of nurses (90%) are well-versed in isolation precautions. Only 65% of nurses, on the other hand, sai d they adhered to isolation protocols well. HCWs in both public and private hospitals had valuable expertise, and that the cause of their non-compliance is a lack of resources and a heavy workload.

1.3 Epidmiolgy

Globally ,21 feburary ,2022.Over 220 nations and territories had reported the outbreak of the COVID-19 infection .Around 425 million individuals had been infected by the virus,distributed as ;males (93,428,384),females ; (90,192,768) .With 5.9 million people dying as a result of it,also distributed as males ;(2,080,292) ;females ;(1,586,676).

The world wide highest proportion of infected cases was inThe United States America (USA) of (80,087,617) followed by India of (42,838,524) ,and Brazil (28.208.212). In Arabic world ,Turkya has the highest proprtion of cases (13,504,485) followed by Iran (6,942,452).Also ,the highest rate of deaths globally was in USA of (954,412). In arabic world Turkya has the highest proprtion of deaths. WHO Coronavirus (COVID-19) Dashboard. (2022)

In palestine, the number of infected cases was 636,055 distributed as:Females 50.07"%,males 49.93%. Also the number of deaths was 5,132 distributed as :males 57.69% ,females 42.3%. Global health 5050.org. (2022). Regarding health and care workers(HCWs) ,latest statisics was by WHO ,around 80 000 to180 000 health and care workers (HCWs) could had died from COVID-19 during the period between the first of January 2020 to Jun 2021.(Health and Care Worker Deaths during COVID-19", 2022)

1.4 Measures that have been taken by the Palestinian Ministry Of Health (MOH)

The Government of Palestine (GOP) promptly announced an emergency when the first seven cases in Bethlehem governance, in the west bank of Palestine were discovered on 5 of march 2020 and dispatched public control measures.Despite the low number of cases, WHO has determined the danger to the Territory of Palestine as extremely high, because of lacking clinical resources in the nation contrasted with different nations. The absence of applicable resources (counting basic consideration beds and artful ventilators) significantly raises the death pace of Coronavirus. The Province of Palestine has 375 grown-up emergency unit beds (in private and government clinics) and 295 ventilators, which seriously obliges their capacity. (Abuzerr et al ., 2021)

The Palestinian Authority developed an emergency plan, collaborating with all partners, trained health experts and facilities in the West Bank, and equipped them with the necessary safety equipment, medical equipment, and medicine. (Abuzerr et al ., 2021)

It is controlling the viral outbreak by testing, quarantining, and imposing travel restrictions on citizens. Each governorate has a quarantine facility, and the Central Health Laboratory conducts testing. people suspected of having COVID-19 were isolated at home till symptoms appear or a positive test is obtained; in addition, all

inbound travelers are subjected to a two-week government quarantine. People with positive patterns or symptoms were treated at government hospitals. Each governorate has its contact and tracking unit. (Abuzerr et al ., 2021)

The government quickly started a national collaborated campaign, informing individuals about public health and status updates using national and local methods such as news, Facebook, and Twitter.Agovernment COVID-19 monitoring panel was part of the program, as is a collaboration with social media pages dedicated to countering misinformation. The Palestinian Ministry of health (PMOH) is in duty of delivering health services to Palestinians who are covered by government health insurance (GHI).The GHI presently covers around 65 percent of Palestinians living in the West Bank, and all Gaza Strip residents. was offered information sessions twice a day through the national media, including updates on COVID-19 cases and government guidelines for citizens . (Abuzerr et al., 2021)

Actions were done at the public and provincial level:

1. All educational institutions including schools, colleges, universities, and recreational areas for 30 days were closed, all borders were closed (goods movement is permitted), and all entering travelers (from Ben Gurion airport) were subject to a 14-day government quarantine and testing.

2. Closing of, all things considered, public foundations and government workplaces, aside from fundamental suppliers (drug stores and food), restriction of mobility between urban areas and different West Bank governorates for every citizen,and all residents were approached to remain at home, except for fundamental exercises and crises .

3. Palestinian workers who transport to Israel for working were asked not to move between the Palestinian Authority and Israel; this was meant they must either return home (and be quarantined for two weeks) or stay in Israel until the situation improves.(Abuzerr et al .,2021)

The (PMOH) had striven to boost the country's multi-sectored response to the COVID-19 outbreak while sustaining principled program delivery and life-saving assistance to the extent possible. The following were the top priorities: improving the ability to

identify, trace, and isolate cases, with a significant requirement to enhance laboratory capacity to test for rapid detection; safeguarding health care workers and communities through training and more PPE; and assuring good case management of all cases.

The (PMOH)has adopted strict steps at the primary and secondary care levels as resources are diverted to meet the expanding COVID-19-related needs. Central clinics in the West Bank, in particular, have been asked to treat only acute emergency cases. To prioritize responding to COVID-19, over 52,000 outpatient appointments (weekly) will be delayed in the West Bank. (AlKhaldi et al., 2020)

Outpatient clinics and elective procedures have been banned in West Bank hospitals. As a result of the readiness measures for possible care of COVID-19 cases, around 4,500 elective procedures (monthly) are expected to be postponed. (AlKhaldi et al., 2020)

According to health officials in Gaza, only seventeen of the 52 basic healthcare clinics are operational, and two of them have been converted to quarantine zones. Quarantine centers were supported by 400 doctors, nurses, and administrative personnel. Breast cancer screening is no longer available, leaving solely diagnostic services. (AlKhaldi et al., 2020)

Routine Noncommunicable diseases (NCDs) patient care has been put on hold, along with early childhood development treatments, oral and dental health services, and physiotherapy. In the meantime, all Gaza hospitals have postponed elective treatments and outpatient services.4,000 patients have had their elective procedures rescheduled as a result of efforts taken to prepare for the likely management of COVID-19 cases. WHO has funded several infection prevention and control (IPC) training sessions for health workers in the West Bank and Gaza Strip and procured and supplied personal protective equipment. (AlKhaldi et al., 2020)

For high-risk pregnancies, the Ministry of Health continues to provide prenatal and postnatal care. The following are some of the difficulties in providing care:Inadequate personal protective equipment (PPE) for maternal health workers, Fear prevents pregnant from attending services (some providers report up to 90 percent decrease in attendance). Access to health services is difficult due to a lack of public transportation.

- United Nations Population Fund (UNFPA) helped the Ministry of Health in Gaza and the West Bank distribute safety information to persons who had been freed from quarantine, including pregnant and breastfeeding mothers. UNFPA is acquiring personal protective equipment (PPE) for healthcare workers who provide maternal health services and is collaborating with the Ministry of Health and other partners to ensure that maternal health services are maintained to the maximum extent possible. (AlKhaldi et al., 2020)
- UNFPA is acquiring personal protective equipment (PPE) for healthcare workers who provide maternal health services and is collaborating with the Ministry of Health and other partners to ensure that maternal health services are maintained to the maximum extent possible. (AlKhaldi et al., 2020)
- WHO aided the Ministry of Health in preparing for COVID-19 in terms of maternal and neonatal health. (AlKhaldi et al., 2020)

A committee has been constituted to discuss both quarantine and facility safety measures. In addition, a management plan and patient flow have been discussed, with a focus on intrapartum care and infant care for moms with COVID-19, whether suspected or confirmed. (AlKhaldi et al., 2020)

1.5 Statement of problem

During my working in the maternity ward, since starting of the COVID -19 pandemic in Palestine, and the increasing number of infected cases globally, this changed the daily routine of healthcare practices followed in hospitals. Although of WHO protocols and standards to prevent the spread of infection, it was broken whether from patients who came to receive care from the hospital and their companions, they were not wearing masks, infected patients not wearing gloves, moreover health care providers have poor compliance with the use of personal protective equipment and aseptic practices

The lack of compliance with Standard Precautions (SPs) among HCWs subsidizes the patients who are affected, overall treatment expenses, and hospital stays of patients who are hospitalized owing to Health-Care-Associated Infections (HCAIs) are caused by a variety of circumstances, including the patient's age, immunological status, previous co-morbidity, and sickness vulnerability. On the other hand, an extended hospital stay increases the risk of contracting hospital-acquired infections.

Pregnant women are most susceptible to the development of severe pneumonia, and therefore they are more likely to contract corona, especially if they suffer from chronic diseases or pregnancy complications. Failure to use a strict method to prevent the spread of infection leads to an increase in the incidence of complications and an increase in the mortality rate

So, it's important to study factors affecting compliance and identify associated factors of non – compliance among health care providers in maternity wards this will minimize the incidence and complications that result from spread infection between patients and as well as health care providers

1.6 Variables definitions

The dependent variable of this study was health care workers compliance with Infection prevention and control (IPC) measures regarding Coved -19 infection. The independent variables were including Socio-demographic factors ,individual factors (knowledge ,attitude ,and individual practices about IPC measures of COVID -19),and institutional factors .Table (1.1)

Table 1.1

conceptual and Operational definitions of variables conceptual and Operational definitions of variables

Variable	Conceptual definition	Operational definition
Compliance	compliance is defined as "the degree to which an individual's conduct taking medicine, following an eating routine, and additionally executing way of life changes-relates with concurred recommendations from a medical care "providers"(Chakrabarti,2014)	It is defined as adherence to a regulation, such as standard, guidelines specification, policies related to Coved-19 disease. In the study we measure the level of compliance by asking 8 questions to assess the level of compliance with IPC measures and scored as follows: 1, 'sometimes'; and 2, for 'rarely,3, for 'sometimes and 4 for 'always', giving a possible score of 32 points
Knowledge	is a highly regarded state in which a person is cognizant of reality.As a result, it is a relationship.A conscious subject is on one side of the relation, and a component of reality to which the knower is directly or indirectly related is on the other.(Zagzebski, 2017)	the level of knowledge about Covid-19 IPC measures was scored as follows: one (1) point was awarded for each correct response and zero (0) for an incorrect response, and a correct response score of ≥80% was considered sufficient knowledge (Amanya et al,.2021)
Attitide	An attitude can be defined as one's proclivity to use a certain evidence-based activity, either positively or negatively (EBP).This propensity is formed by one's perceptions of the repercussions or results of employing that EBP, which might be perceived as a benefit or a drawback of taking that action. (Fishman et al.,2021)	In the study we measure the level of attitude by nine questions, one answer to be chosen; the eighteen questions has four options, this part scored as follows: 1 point for "Very dissatisfied "; 2 for "dissatisfied ";3 for "Neutral";4 for "Satisfied ";5 for "Very satisfied", total scores 65 points.
Clnical Practice	It refers to the ability to address complex nursing problems and offer appropriate care .it is a collection of psychological and physiological traits of individuals that can be used to solve clinical difficulties.it is focusin a changing nursing work environment utilizing comprehensive ways to handle complex nursing challenges and deliver high-quality nursing care.(_Zeng et al., 2016).	We measure clinical practices related to Coved-19 preventive mesures includes four questions with options and scored as follows: 1 for "Never",2 for "Seldom",3 for "Sometimes",4" often ",5 for "Very often ", total scores 75 points (Beyamo et al,.2019)
Institusional factors	The active encouragements provided by the organization in the form of policies, laws, monetary and non-monetary assistance that motivate employees to do their duties in a highly effective and productive approach .(_Falola et al .,2020)	We measure the level of institusional commitment by two types of questions, the first 4 questions were rated on a Likert scale (never, rarely, neutral, sometimes, and always). A scoring system was assigned as follows: 1, for 'never,2 for 'rarely, 3 for neutral,4for 'sometimes, and 5 for 'always giving a total score of 20 points. The second part includes two questions answered by yes or no(Amanya et al,.2021).

1.7 Study Objectives

1.7.1 Goal of the study

To increase compliance with standard precaution related to COVID -19 diseases to decrease the related infection morbidity among patients and health care providers

1.7.2 Aim of the study

The study aims at evaluating the compliance with COVID-19 prevention measures and identifying associated factors among health providers in maternity wards in west bank hospitals

1.7.3 Specific objectives

1. To assess the compliance of health care providers in the maternity room to COVID-19 protective measures

2. To identify factors affecting the health care provider compliance to COVID19 protective measures

3. To review the hospital policies and guidelines related to COVID-19 protective measures that issued during the pandemic

1.8 Study significance

- This study will be the first study done in Maternity wards in west bank governmental hospitals about the evaluation of the compliance of IPC related to Coved -19 during the pandemic.
- Healthcare workers are in the first line of deveining against COVID-19 infection, in Palestine, there is no clear data about the relationship between compliance with Coved -19 IPC and the extent to get infected from Coved -19 among health care workers
- The findings of the study will help the Palestinian Ministry of Health (MOH) to identify the factors that contribute to healthcare personnel's noncompliance with Coved-19 infection prevention and control (IPC) procedures in maternity wards in governmental west bank hospitals.

- The study emphasizes the significance of COVID -19-related IPC guidelines in the prevention of infection spread, as well as the challenges that can arise when these protocols and guidelines are implemented.
- This study will evaluate the importance of the availability of the essential equipment and facilities for implementing successful IPC practices linked to COVID -19 in maternity wards in particular, as well as in public hospitals in the West Bank in general.

1.9 Study Hypothesis (Null hypothesis)

1. There are no differences between the socio-demographic factors and compliance with COVID-19 IPC measures among health providers in maternity wards in west bank hospitals.

2. There is no relationship between individual-related factors and compliance with COVID-19 IPC measures among health providers in maternity wards in west bank hospitals.

3. There is no relationship between institutional factors and compliance with COVID-19 IPC measures among health providers in maternity wards in west bank hospitals

Chapter Two
Methodology

This chapter reviewed in detail the steps used to meet the study objectives. The study design and setting, the study population and sampling method, the data collection tool, validity and reliability,ethical considerations,field work,variables definitions ,statistical analysis, and limitations of the study are all covered in this chapter.

2.1 Study design

A cross-sectional study was conducted to evaluate the compliance of health providers in maternity wards(labor ,postnatal wards) in west bank governmental hospitals with Covid-19 prevention measures and identify associated factors

2.2 Study population

The study population included 267 participants: midwives, nurses, and female doctors (these numbers were taken after contact with head nurses of maternity departments in each hospital table (2.1)

Table 2.1

Name of hospital and the number of health care providers in maternity departments in them

Name of hospital	Number of health care providers in the maternity and postpartum department
1. Tubas Turkey	Midwifes 12 ,Nurses:1,Female doctors :1 (14)
2. Jenin (Khalil Suliman)	Midwifes 28 ,Nurses:1,Female doctors :5 (34)
3. Tulkarm (Thabit Thabit)	Midwifes 17 ,Female doctors :5 (22)
4. Rafidia- Nablus	Midwifes 34 ,Nurses:2,Female doctors :11 (47)
5. Qalqiliya (Darwish Nazal)	Midwifes :13
6. Salfit (Yasser Arafat)	Midwifes :13 ,Female doctor:1 (14)
7. Palestin Medical Complex (PMC)- Ramallah	Midwifes :20,Nurses:2,Female doctors :5 (27)
8. Jericho	Midwifes :10
9. Beit Jala (Al Hussein)	Midwifes :16 , Female doctor:1 .(17)
10. Hebron (Alia)	Midwifes :26,Nurses:1,Female doctors :5 (32)
11. Yatta (Abu Alhasan Al Kassem)	Midwifes :18 ,Female doctors :1 (19)
12. Mohammad Ali Al Mohtaseb- Hebron	Midwifes :14 ,Nurses:2,Female doctors :2 (18)
Total of staff	267

2.3 Sample and Sampling method

A convenient sampling method was used, Sample size was calculated using an online raosoft calculator.The population number and margin of error E (0.05) and (50%) response distribution + (10%) drop out.The sample size calculated to be :

$$x = Z(c/100)2r(100-r)$$

$$n = N\,x/((N-1)E2 + x)$$

$$E = Sqrt[(N - n)x/n(N-1)]$$

where N is the population size, r is the fraction of responses that you are interested in, and Z(c/100) is the critical value for the confidence level c(0.95).

2.3.1 Inclusion criteria

All healthcare workers(midwives, nurses, and female doctors) who work in the maternity departments (labor, postnatal wards) of the12 west bank governmental

hospitals with full-time employment and who voluntarily agreed to participate in the study by filling the online questionnaire.

2.3.2 Exclusion criteria were

- Male doctors and other staff who work part-time.
- Private hospitals, Palestinian Venezuelan Ophthalmic Hospital Hugo Chavez-Turmusa'yya, and Bethlehem (Psychiatric) hospital.

2.4 Tool of data collection

This study was designed to collect data to evaluate the compliance with Covid-19 measures and identify associated factors among health care providers in maternity wards in west bank hospitals. Using A pre-validated and free questionnaire developed by combining the contents of questionnaires from 3 different literature (Amanya et al,.2021, Beyamo et al,.2019, and Shekhar et al,.2021), and modified to fit with aim of the study, it translates by An English language doctor who is familiar with medical terminology to fit the language of healthcare providers.

2.4.1 Questionnaire parts: includes four sections, annex (A),page (73)

- The first section socio-demographic characteristics of the subjects includes 7 questions (Amanya et al,.2021, Beyamo et al,.2019).
- The second section about individual related characteristics includes three parts; first part nine questions to assess the level of knowledge and understanding of the concepts of Covid-19 IPC and was scored as follows: one (1) point was awarded for each correct response and zero (0) for an incorrect response, and a correct response score of ≥80% was considered sufficient knowledge (Amanya et al,.2021). Second part ten questions about attitude related to IPC measures for COVID-19; Nine questions, one answer to be chosen; the eighteen questions has four options, this part scored as follows: 1 point for "Very dissatisfied "; 2 for "dissatisfied ";3 for "Neutral";4 for "Satisfied ";5 for "Very satisfied", total scores 65 points. The third part about clinical practices related to Coved-19 includes four questions with options and scored as follows: 1 for "Never",2 for "Seldom",3 for "Sometimes",4" often ",5 for "Very often ", total scores 75 points (Beyamo et al,.2019). The second part about the attitude toward vaccination against COVID-19 includes 4 questions; 3 questions

answered "yes" or " No", and in the third question if the answer was no, there were 4 choices, to choose one of them. The fourth question-answer one of four choices (Shekhar et al,.2021)

- Third section: It included 8 questions to assess the level of compliance with IPC measures and scored as follows: 1for never'; and 2, for 'rarely,3for neutral, 4 for 'sometimes and 5 for 'always', giving a possible score of 40 points. Adequate compliance was set at ≥75% (Amanya et al,.2021).
- The fourth section is about the perception of institutional commitment to IPC and it included two types of questions, the first 4 questions were rated on a Likert scale (never, rarely, neutral, sometimes, and always). A scoring system was assigned as follows: 1, for 'never,2 for 'rarely, 3 for neutral,4for 'sometimes, and 5 for 'always giving a total score of 20 points. The second part includes two questions answered by yes or no(Amanya et al,.2021).

2.5 Validity and Reliability

To verify the validity of the questionnaire ,it was reviewed by the infection control coordinator and two academic supervisor specialists in the field of study, their comments were to add some points about the vaccine, and translate the questionnaire. The pilot study was done after developing the tool on 10% of the sample (30) which was included in the sample. And the value of Cronbach's Alpha was calculated, it was 0.875. It shows a good indication.

2.6 Statistical analysis

After completing the data collection and review, they were entered into the database developed on the Statistical Package for Social Sciences (SPSS), where the respondents' answers were given according to the five-point Likert scale for each paragraph of the questionnaire. The researcher also processed the necessary statistics for the data by extracting numbers and ratios. The metrics, arithmetic means, and standard deviations of the study paragraphs, and the study hypotheses were examined at the level of statistical significance (a ≤0.05) by using the following tests:

1. Percentages, frequencies, and arithmetic mean averages: This command is mainly used to know the frequency of the categories of a variable, and it is useful in describing the study sample.
2. Pearson Correlation Coefficient to measure the degree of correlation: This test is based on studying the relationship between two variables, and the researcher used it to calculate the internal consistency and the structural validity of the questionnaire.
3. Cronbach's Alpha test to determine the stability coefficient of the tool
4. T-test for independent variables to see if there are statistically significant differences between two sets of independent data.
5. One-Way ANOVA to see if there are statistically significant differences between three or more groups of data. The researcher used it for the differences attributable to the variable that includes three groups or more.
6. Linear regression, a test by which the mean of a random variable or several random variables is predicted based on the values and measurements of other random variables.
7. Rely on the Likert fifth scale in data analysis.
8. 8.Post hok tests are used to determine where discrepancies between groups arose, they should only be used when there is a statistically significant difference in group averages i.e .,ANOVA one -way outcome that is statistically significant. In the same way that ANOVA was used on multiple t-tests, post hoc tests help to maintain the find a different error rate (typically alpha = 0.05).

2.7 Fieldwork

The data was collected by creating an electronic link to the questionnaire after a letter was sent to facilitate a task in all government hospitals in the West Bank. All nursing directors were contacted to reach the heads of the maternity and postpartum departments, and their numbers were taken and contacted by phone. The link was sent through Whats App and Messenger, and the data collection period was from the first to the end of September to 2021.

2.8 Ethical and administrative consideration

The study proposal was approved by the Institutional Review Board (IRB) annex (),page () and the scientific research committee of the Public Health department as well

as the faculty of graduate studies scientific research board at An-Najah National University annex (),page () .

Permission to conduct the study in the west bank governmental hospitals was obtained from the Palestinian Ministry of Health (MoH).

Each questionnaire included an explanatory letter for all participants that describes the purpose, relevance, confidentiality, and anonymity of the information, as well as the choice to participate (voluntary) ,consent form in annex () ,page ().

Summary

This was a cross-sectional descriptive study was done in governmental hospitals in West Bank.The sample consisted of (158) midwives, nurses, and female doctors.

Data were collected by an online self- administered questionnaire. Then data was analyzed by using SPSS. Different statistical tests were used to calculate frequency and percentages and correlations.These tests were T-test, one-way ANOVA, and linear regression.

Chapter Three

Results

Introduction

The tools that were used to help evaluate data and produce the results that will be displayed in this chapter were discussed in the previous chapter. The findings of the study, as well as an analysis of various demographic data for the participants, are presented in this chapter.

3.1 Socio-Demographic data

Table 3.1

Distribution of participant's percentage according to their demographic data

Variables	Classification	No	%
Occupation	Nurse	3	1.9
	Midwife	137	86.7
	Doctor	18	11.4
level of education attained	Certificate	1	0.6
	Diploma	16	10.1
	Bachelor's degree	136	86.1
	Master's Degree	5	3.2
Marital status	Single	24	15.2
	Married	132	83.5
	Widowed	2	1.3
Length of work experience (in years)	1-5	60	38.0
	6-10	56	35.4
	11-15	32	20.3
	16-20	5	3.2
	21+	5	3.2
Age	(1-34)	8.15± 5.349	
	(24-50)	30.79 ±5.022	
Working hours /week	(10-62)	40.80± 7.822	

Table (3.1) shows that (86.7%) of participants were midwives and the mean age was (30.79±5.022). Also, (83.5%) of participants were married, (86.1%) had a bachelor's degree. The mean work experience was (8.15±5.349), with a mean of working hours (40.08 ±7.822).

Table 3.2

Distribution of the percentage of participants according to their workplace/hospital

Name of hospital	No	%
1-Tubas Turkey	14	8.9
2-Jenin (Khalil Suliman)	20	12.7
3-Tulkarm (Thabit Thabit)	16	10.1
4-Rafidia- Nablus	21	13.3
5-Qalqiliya (Darwish Nazal)	10	6.3
6-Salfit (Yasser Arafat)	10	6.3
7-Palestin Medical Complex (PMC)-Ramallah	10	6.3
8-Jericho	5	3.2
9-Beit Jala (Al Hussein)	8	5.1
10-Hebron (Alia)	19	12
11-Yatta (Abu Alhasan Al Kassem)	16	10.1
12-Mohammad Ali Al Mohtaseb-Hebron	9	5.7
Total of participants	158	100

Table (3.2) showed the working place of participants, it indicated that (13.3) were from Rafidia governmental hospital - Nablus; (12.7%) were from Khalil Suliman governmental hospital -Jenin, while (3.2%) were from Jericho governmental hospital – Jericho.

3.2 Distribution of participants regarding their compliance about COVID -19 (IPC) measures

Table 3.3

Distribution of participants regarding their compliance to IPC measures for COVID -19

Questions about compliance	Rarely	Occasionally	Neutral	Most of the time	Always, as recommended
Do you follow recommended hand hygiene practices?	1.3%	0.6%	0.0%	27.8%	70.3%
Do you use alcohol-based hand rub or soap and water before touching a patient?	1.3%	19.0%	0.6%	53.2%	25.9%
Do you use alcohol-based hand rub or soap and water before cleaning/aseptic procedures?	2.5%	13.3%	5.1%	47.5%	31.6%
Do you use alcohol-based hand rub or soap and water after (risk of) body fluid exposure?	1.3%	2.5%	2.5%	51.3%	42.4%
Do you use alcohol-based hand rub or soap and water after touching a patient?	0.6%	5.7%	0.0%	52.5%	41.1%
Do you use alcohol-based hand rub or soap and water after touching a patient's surroundings?	1.3%	1.9%	1.3%	51.3%	44.3%
Do you follow IPC standard precautions when in contact with any patient?	1.9%	1.9%	5.1%	30.4%	60.8%
Do you wear PPE when indicated? (PPE includes: Face mask, Face shield, Gloves, Goggles/glasses, Gown, Coverall, Head cover, Respirator (e.g. N95 or equivalent), Shoe covers)	3.2%	6.3%	7.6%	32.3%	50.6%

Table (3.3) shows that (70.3%) of participants were reported always following recommended hand hygiene practices. Regarding use alcohol-based hand rub or soap

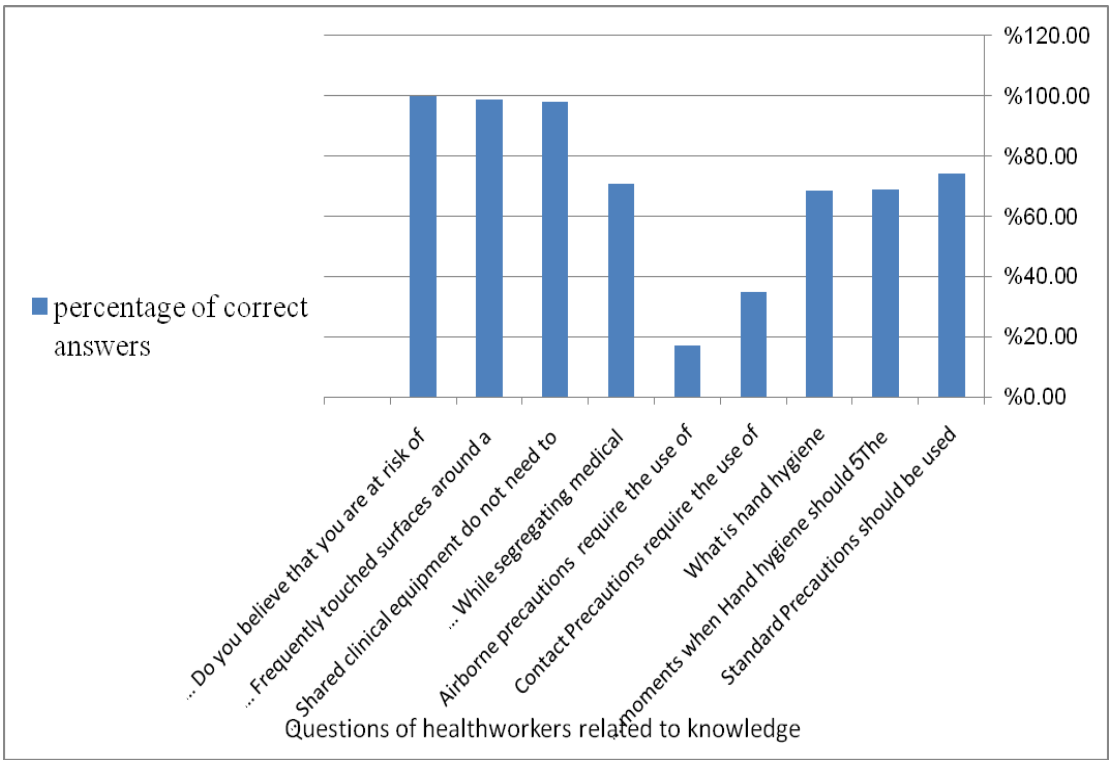
and water; participants most of the time use alcohol-based hand rub or soap and water before touching a patient, after (risk of) body fluid exposure, after touching a patient, and after touching a patient's surroundings (53.2%,51.3%,52.5%, and 51.3%)respectively. Regarding following IPC standard precautions when in contact with any patient (60.8%) always follow as recommended. Also, (50.6%) of participants wear PPE when indicated always as recommended.

3.3 Distribution of participants regarding the individual factors domain about COVID -19 (IPC) measures :

3.3.1 Distribution of participants regarding the level of Knowledge *about IPC measures for COVID-19*

Figure 8

distribution of the participant's correct answers regarding the knowledge about IPC measures for COVID-19.



All participants answered correctly regarding contracting the risk of covid-19, frequently touched surfaces around a patient area (hospital) should be cleaned at least daily (98.7%), and Standard Precautions should be used for all patients (74.1%). while few answered for the use for airborne production use (17.1%).

3.3.2 Distribution of participants regarding their Attitude about COVID -19(IPC) measures

Table 3.4:*Distribution of percentage participants regarding their attitude to IPC measures for COVID -19*

Questions about attitude	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
Telephones and doorknobs are not a source of infections.	43.0%	45.6%	2.5%	3.2%	5.7%
Removing rings, watches and bracelets are sometimes appropriate in surgical hand scrub.	5.7%	7.6%	1.9%	65.8%	19.0%
Using personal protective equipment is not an easy task	8.9%	26.6%	4.4%	46.2%	13.9%
Using PPE harm patients psychologically, so do not use it	36.7%	44.3%	10.1%	6.3%	2.5%
Don't use latex gloves if you have allergy to latex	15.8%	43.7%	6.3%	20.3%	13.9%
Do keep fingernails trimmed moderately short to reduce the risk of tearing gloves	5.7%	5.1%	3.2%	51.9%	34.2%
Gloves should be worn for non-critical procedures such as bed-making	3.8%	5.7%	3.2%	58.2%	29.1%
Syringes and needles can be reused.	56.3%	38.0%	3.2%	1.3%	1.3%
Sharp collection materials in Safety box/ card box	4.4%	5.7%	2.5%	37.3%	50.0%
Sharp collection materials in Plastic pail with lid	5.7%	6.3%	3.2%	37.3%	47.5%
Sharp collection materials in Plastic pail without lid	55.7%	39.9%	2.5%	1.3%	0.6%
Sharp collection materials in any open containers	53.8%	41.1%	1.9%	1.3%	1.9%
Some wastes can be managed without using personal protective equipment	56.3%	31.6%	5.7%	3.8%	2.5%

Table (3.4) (annex) page () shows that the attitude percentage differed regarding to items were assessed. participants reported being dissatisfied and very dissatisfied with the that " wastes can be managed without using personal protective equipment (56.3%)", collection of sharps materials in a plastic pail without lid (55.7%), and

telephones and doorknobs are not a source of infections(45.6%). While participants reported being satisfied and very satisfied to remove rings, watches, and bracelets in surgical hand scrub, gloves should be worn for non-critical procedures such as bed making, and collection of sharps materials in the safety box (65.8%,58.2%, and 50%) respectively

3.3.3 Distribution of participants regarding their clinical practice about COVID -19 (IPC)measures

Table 3.5

Distribution of percentage participants regarding their practice to IPC measures for COVID -19

Questions about practice	Never	Seldom	Sometimes	Often	Very often
How often do you wash your hands before any contacts?	0.0%	5.1%	18.4%	44.9%	31.6%
How often do you wash your hands after any contacts?	0.0%	3.2%	8.9%	45.6%	42.4%
How often do you wash your hands In between patients?	0.0%	3.8%	13.3%	47.5%	35.4%
How frequently do you use antimicrobial soap?	0.0%	8.2%	19.6%	46.8%	25.3%
How frequently do you use Plain water?	3.2%	5.1%	9.5%	57.6%	24.7%
How frequently do you use alcohol antisepsis and water?	0.0%	7.0%	19.6%	51.9%	21.5%
How frequently do you wear the gown?	2.5%	18.4%	41.1%	31.6%	6.3%
How frequently do you wear gloves?	5.1%	8.9%	25.9%	38.0%	22.2%
How frequently do you wear the apron?	7.6%	33.5%	36.7%	18.4%	3.8%
How frequently do you wear the mask?	4.4%	7.0%	13.3%	28.5%	46.8%
How frequently do you wear the other's protective equipment?	6.3%	12.7%	41.8%	31.6%	7.6%
How often do you avoid recapping and other hand manipulation of needles to avoid needle stick or sharp injuries?	5.7%	1.9%	12.7%	54.4%	25.3%
How often do you use safety boxes to avoid needle sticks or sharp injuries?	3.2%	2.5%	7.6%	50.6%	36.1%
How often do you avoid disassembling sharps to avoid needle stick or sharp injuries?	1.9%	5.1%	7.0%	57.6%	28.5%
How often do you avoid overpassing sharps with another person to avoid needle stick or sharp injuries	3.2%	1.9%	7.6%	58.2%	29.1%

Table (3.5) indicated that (44.9%, 31.6%),(45.6% ,42.4%), and (47.5%, 35.4%) of participants reported often and vey often that they wash their hands before,after ,and in between patients respectively . (46.8%,25.3%),(57.6%, 24.7%), and (51.9%,21.5%) of

participants reported using of hand hygiene materials, (antimicrobial soap,plain water, and use alcohol antisepsis and water) respectively.According to PPE use,responses differed regarding each item , 41.1% reported that they sometimes wear the gown and 46.8% are oftenly wear gloves.About handling sharps practices,(54.4% ,25.9%),(50.6% ,36.1%),(57.6%, 28.5%) and (58.2%,29.1%) of participants reported often and very often that they avoid recapping and other hand manipulation of needles , they use safety boxes, avoid disassembling sharps,and avoid overpassing sharps with another person to avoid needle stick or sharp injuries respectively.

3.4 Distribution of participants regarding their institutional support for COVID - 19 (IPC) measures

Table 3.6

Distribution of participants percentage of the institutional support for IPC measures of COVID-19

Items about institutional support	Never	Rarely	Neutral	Sometimes	Always
Provision of Adequate Personal protective Equipment (PPEs) eg. Gloves, masks, Aprons etc	0.6%	14.6%	5.7%	52.5%	26.6%
Availability of hand-washing facilities with clean running water and hand hygiene products	1.3%	11.4%	3.2%	46.2%	38.0%
Provision of sufficient supplies for the collection of sharps and medical wastes	1.9%	13.9%	3.8%	55.1%	25.3%
Is there Monitoring &Evaluation on standard precautions?	3.2%	29.7%	10.8%	39.9%	16.5%
	Yes	No			
Have you received infection prevention and control training regarding Covid-19?	132 (83.5%)	26 (16.5%)			
Do you have infection prevention and control guidelines in their department/ward regarding Covid-19?	57 (36.1%)	101 (63.9%)			

Table (3.6) (annex) page () indicated that(52.5%,26.6%), (46.2%,38.0%),and (55.1%,25.3%) of participants reported most of the times and always that their institutions provision of adequate personal protective equipment (PPEs) , hand-

washing facilities with clean running water and hand hygiene products, and provision of sufficient supplies for the collection of sharps and medical waste respectively .While (29.7%,39.9%) of participants reported rarely and sometimes that their there monitoring &evaluation on standard precautions .132(83.5%)of participants answered yes for received infection prevention and control training in regard to Covid-19.While , 101(63.9%) reported no for have infection prevention and control guidelines in their department/ward in regard to Covid-19

3.5 Distribution of participants according their attitude of vaccine for COVID -19

Table 3.7

The responses of participants according to COVID-19 vaccine

Questions related to COVID-19 vaccine	Responses	
1- Have you been diagnosed with COVID- 19?	Yes	73(46.2%)
	No	85(53.8%)
2-Did you get the vaccine for COVID-19?	Yes	129(79.7%)
	No, If no the reason is	32(20.3%)
	1-Religion	1(0.6%)
	2-fear of potential side effects	17(10.8%)
	3-Lack of trust for those creating and distributing the vaccine	10(6.3%)
	4-Don't believe vaccines work	4(2.5%)
3-Would you advise friends and family to get vaccinated for COVID-19?	Yes	128(81%)
	No	30(19%)
4-COVID-19 Vaccine for health care workers should be:	1- Mandated by the employer, like Influenza vaccine	8(5.1%)
	2- Mandated by the government for all health care workers	93(58.9%)
	3- Not sure	16(10.1%)
	4-voluntary	41(25.9%)

Table (3.7) (annex D)page (90) indicated that 73(46.2%) of participants had been diagnosed of COVID-19 ,while 85 (53.8%) had not been diagnosed for COVID-19. 129 (79.7%) of participants had answered that they got vaccine of COVID-19,while 32 (20.3%) of participants answered that they had not got vaccine according to these reasons (0.6%,10.8%,6.3% and 2.5%) of participants reported due to religion ,fear of potential side effects,lack of trust for those creating and distributing the vaccine,and don't believe vaccines work respectively.

Moreover ,128 (81%) of participants answered yes of advise their friends and family to get vaccine for COVID-19.while 30 (19%) of them reported no to this question. In addition to (58.9%,25.9%)) of participants reported that the COVID-19 Vaccine for health care workers should be mandated by the government for all health care workers ,and voluntary. while (5.1%) of them answered should be like influenza vaccine.

3.6 Means of compliance and associated factors score of participants regarding IPC measures for COVID-19

Table 3.8

Distribution of participants regarding to the means of compliance and other associated factors score for COVID-19 IPC measures

Items	Mean of score * (mean ± standard deviation)
Compliance for COVID -19 IPC measures	(34.03 ± 0.59844)
Knowledge about COVID -19 IPC measures	(6.0 ±1.04429)
Attitude for COVID -19 IPC measures	(36.34± 0 .51683)
Practice for COVID -19 IPC measures	(52.57± 0 .60961)
Institutional support for COVID-19 IPC measures	(15.23 ± 0. .86414)

Table (3.8) shows that the means of compliance score for IPC measures of COVID-19 were (34.03 ± 0.59844),while the means of associated factors sore for IPC measures of COVID-19 respectively ; the means of knowledge score (6.0 ±1.04429) ,the the means of attitude score (36.34± 0 .51683) , and the means of practice score for IPC measures of COVID-19 (52.57± 0 .60961).Also, the means of Institutional support for COVID-19 IPC measures was(15.23 ± 0. 86414).

Table 3.9

Distribution of participants regarding their compliance and associated factors scores of IPC measures for COVID -19

Items	Score ≤ 75	Score ≥75
Compliance of IPC for COVID 19	14.9%	85.1%
Knowledge about IPC for COVID-19	66.7%	33.3%
Attitude of IPC for COVID -19	55.9%	44.1%
Practice of IPC for COVID -19	70.1%	29.9%
Institutional support of IPC for COVID -19	23.8%	76.2%

Table (3.9) shows that (85.1%) of participants had a high level of compliance IPC measures for COVID-19 .According to associated factors of compliance ,(33.3%) of the participants had a high level of knowledge about IPC measures for COVID -19,

(44.1%) of them had high level of attitude ,and only (29.9%) of them had high level of practice regarding IPC measures for COVID-19. It also shows that (76.2%) of the participants had a high level of their institutional support according IPC measures for COVID-19.

3.7 Results of hypothesies

Table (3.10) and table (3.11) in (Appendix E) indicated that there was no significant differences between compliance and age, occupation

Table (3.12) in (Appendix E) indicated that there were no significant differences between participants educational level and their knowledge , attitude. While there were significant differences between educational level and their clinical practice p-value (0.049) and institutional support of IPC measures for COVID-19 with educational level ,as p-value (0.049),(0.0170 respectively.

Table (3.13) in (Appendix E) indicated that there were significant differences between education level and clinical practicing , it showed that participants who have master degree are more compliant during their clinical practices from the Diploma and Bachlore sdegree.

Table (3.14)) in (Appendix E) indicated no significance differences between compliance, knowledge, attitude and institusional factors related to IPC measures for COVID-19 with working experince. While ,there was significant differences between clinical practice of participants and working experice more 21years as (p- value 0.032)

Table (3.15)) in (Appendix E) indicated there were significant differences between the participants working experienc and their clinical practice, it indicated those who have experience more than 21 years were more compliant to their practices than others.

Table (3.16)) in (Appendix E) indicated that there were no significant differences between participants clinical practice and in relation to their working hours/ week . While there were significant differences between knowledge ,attitude and institusional support as p- value (0.005),(0.039),and (0.029) respectively

Table (3.17)) in (Appendix E) indicated there were differences between the participants working hours and their knowledge and attitude, it indicated those who

have working up to 35 hrs were more knowledgable and have attitude for COVID-19 IPC measures than others .And there was differences between institusional support and working hours (37-39)hrs .

Table (3.15) in (Appendix E) indicated there were no significant differences between compliance and associated factors of IPC measures for COVID-19 with marital status

According to Correlations Test, table (3.15) indicated there were no significant differences at the level α=0.05 between compliance , knowledge ,attitude, practice, and Institutional support the sig value is greater than 0.05. While we find that there were significant differences between individual factors and institusional support .

3.8 Review the hospital policies and guidelines related to COVID-19 protective measures that issued during the pandemic

Reviewing of policies and protocols related to COVID-19 in the hospitals was done after back to the infection control officer ,these were all polices and protocols existing in the infection control officer Sorted from newest to oldest date .Also, there was no special policy for dealing with pregnant women and after childbirth. Patients are treated according to the general protocol for dealing with any patient infected with Covid 19, with special brochures for Covid 19 in all departments, including the maternity department. But when I return to the Palestine Ministry of Health website On the list of protocols, there is a protocol titled “COVID-19-in-pregnancy” and it is most likely not implemented in government hospitals.table (3.17) show COVID-19 protocols and policies distributed to hospitals

3.8.1 Updating the quarantine protocol for those infected and in contact with Covid-19 disease protocol

1. Contact persons without symptoms are not quarantined regardless of symptoms
2. Contact persons with symptoms, a rapid examination or PCR is performed and the treatment is based on the result of the examination.
3. Quarantine the infected for only five days from the date of taking the sample, with the obligation to put the mask for another five days, regardless of vaccination
4. Quarantine the patient who suffers from symptoms until the symptoms disappear, provided that the last 24 hours without a rise in temperature, supported by a

medical report from the doctor (preventive medicine, hospital staff doctor), provided that the period of quarantine is not less than 5 days.

3.8.2 The outbreak of the COVID-19 epidemic the fifth wave, recommendations for the next stage, and the protocol for work in hospitals

Work is done according to the following priority:

1. Postponing all programmed operations during the month (February / 2022) optional
2. Suspension of work in outpatient clinics as of its date / optional
3. Increase the intensive care beds as much as possible
4. Preparing places (sections / rooms) to treat COVID patients
5. Ensure that working medical personnel have received the booster dose of vaccination within the health protocol

3.8.3 Sampling protocol update

1. Adoption of the rapid examination as a diagnostic examination within the following protocol:

The positive examination depends and is entered into the system

- Negative examination of contacts with symptoms or suspected of being infected is confirmed by PCR examination

2. Not to take samples for quarantined people (infected contacts) after the end of the quarantine period
3. Examination of contacts who show symptoms or are suspected of being infected only
4. Not to withdraw samples for contacts without symptoms

– The limitation to collecting samples for hospital visitors within the definition of (SARI) Symptoms of Acute Respiratory Infection, which is defined as follows:

– A person with a sudden rise in temperature of more than 38 degrees ,cough or sore throat,shortness of breath or difficulty breathing,and the need for hospital treatment.

3.8.4 Receiving vaccinations against the Corona virus

– Emphasis on all employees in order to obtain the necessary vaccinations to confront the Corona virus, and to take the necessary legal measures against those who refrain from taking the vaccine, in order to preserve the safety and health of others.

3.8.5 Handbook of policies and work procedures for combating and controlling infection with the Covid-19 virus in hospitals

This guide contains a set of guidelines and procedures for providing health care to patients suspected of being infected with or infected with Covid-19 disease. The internal and external health facility, the mechanism for screening and monitoring cases of Covid-19, and the mechanism for taking and transferring samples of suspected cases)

3.8.6 Central quarantine and home quarantine policy no (38)

1. Home quarantine is imposed for a period of 14 days for every worker returning from lands (48) or working in settlements, starting from the date of his return.
2. Home quarantine for a period of 14 days is imposed on every coming from traveling to the homeland from the date of his return.
3. The central quarantine (Ministry of Health) is imposed on all those infected with Covid-19/Corona and confirmed to have been laboratory-confirmed.
4. Anyone who violates this circular exposes himself to legal accountability

1.8.7 Epidemiological survey by phone

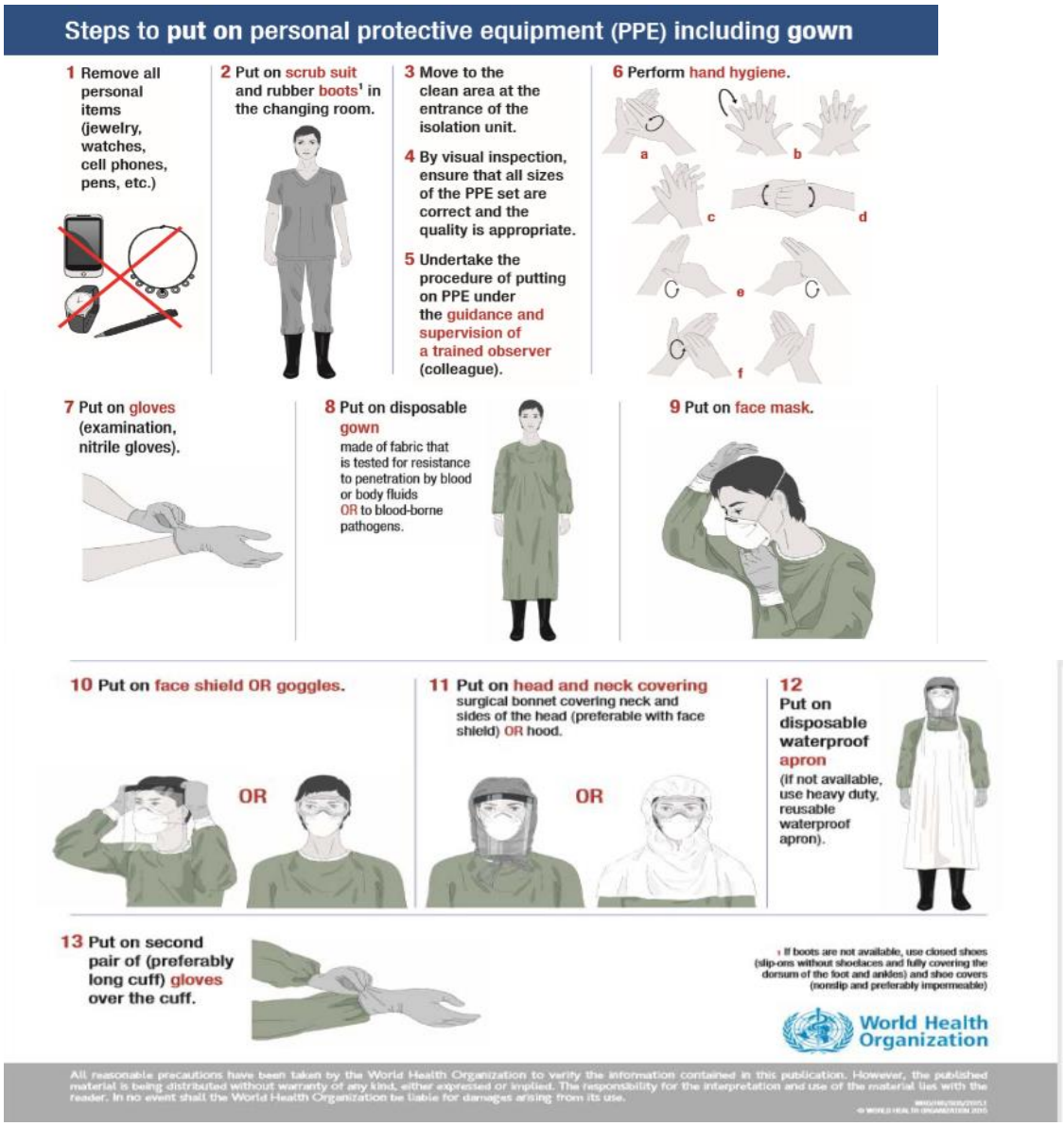
Figure 9:

3.8.8 Putting on and taking off personal protective equipment in case of complete barrier isolation / level one

This policy put from WHO for any the case of dealing with a patient with the Corona virus (Covid-19) or suspected of carrying this virus, PPEs must be used completely, in order to protect ourselves and ensure that the infection is not transmitted between patients, health workers or the public.

Figure 10

Steps to wear full PPE



3.8.9 Rational use of PPE for COVID-19/coronavirus

This policy has been developed in order to preserve the public interest and in the interest of the health and safety of medical personnel and in view of the acute global shortage of personal protective equipment / and in order to rationalize the use and protect medical personnel, and in accordance with the recommendations of the World Health Organization, attached table issued by the World Health Organization regarding the rational use of personal protective equipment distributed According to the type of activity / service, and the employee for that ,Figures (12) in Appendix (F).

3.8.10 Ambulance disinfection and cleaning policy when transporting a suspected or confirmed case of COVID-19 virus,policy no (26)

This policy was developed because the transfer of suspected or confirmed patients with infectious respiratory diseases such as (H1N1 COVID-19, SARS), who are usually transported by ambulance to or between health care facilities, where person-to-person transmission occurs, by Inhalation of respiratory droplets (mist) resulting from sneezing or coughing from an infected person, or when he touches contaminated surfaces and inhalation of aerosolized droplets, which may fall around patients and contaminate the surfaces of the ambulance, which may cause transmission of infection.

The goal of this policy is to reduce the number of microbes on the surfaces of the ambulance, prevent transmission of infection, ensure the safety of cleaning workers, and ensure the readiness and safety of the ambulance for the next transportation mission.

3.8.11 Policy for cleaning and disinfecting reusable equipment for the COVID-19 patient ,no (25)

This policy emphasizes the use of medical tools during the provision of health care to a patient with Covid-19 to be single-use, which means to dispose of them immediately after use, but in the event that they are not available and having to reuse them, a full commitment is made to clean and disinfect them in a complete and correct manner before reusing them. to another patient. The aim of this policy is to establish a unified mechanism for cleaning and disinfecting reused tools for a COVID-19 patient in case of need, to maintain the safety of patients and health staff, and to control and prevent infection.

3.8.12 The mechanism of disposal of medical waste resulting from the provision of health care to Covid-19 patients,policy no(27)

This policy focuses on the need to provide high-risk medical bags of red color, and in the event that they are not available, use yellow medical waste bags with a sticker that they are dangerous waste (COVID-19), the place of their generation and the date according to the medical waste management policy

- Adherence to the process of sorting medical waste resulting from (Covid-19) and not mixing it with other waste
- The medical waste worker washes his hands with soap and water or disinfects them with medical alcohol preparations
- The waste worker wears the PPE completely (a mask, a apron with gloves, eye protection goggles in case there is a risk of splashing organic or chemical substances, long shoes or tight work shoes).
- Sharp medical waste, such as: needles, scalpels, etc., is disposed of. It is placed inside a reinforced plastic box, and when it is two-thirds 75% full, it is disposed of by closing it tightly and placing it inside a medical waste bag (yellow) and placing a sticker on it. It is sharp waste, the place of its birth and the date

3.8.13 Criteria for sampling related to COVID-19,policy no (23)

This policy set According to the Public Health Law No. (20) of (2004) and in order to preserve the health and safety of citizens, and according to the instructions of (WHO), (CDC), samples are taken (nasopharyngeal swab) or (oropharyngeal swab) for cases that meet one of the following conditions:

if it was:

1. A recent return or lived in an area affected by COVID-19 within the previous 14 days
2. Has contact with a patient diagnosed with COVID-19 in the previous 14 days
3. Has direct contact with tourists coming from an area affected by COVID-19 during the previous 14 days and suffers from a high temperature of 37.5 with any respiratory symptoms (cough, runny nose, burning in the throat, shortness of breath)
4. Medical personnel with pneumonia of unknown cause
5. Any patient who suffers from unknown severe pneumonia and needs hospitalization

6. For patients diagnosed with Covid 19 disease for follow-up according to the instructions of the Ministry of Health
7. Persons under official or home quarantine, a sample is taken when symptoms appear, or on the last day of quarantine who do not show symptoms

3.8.14 Policy of cleaning and disinfecting personal protective equipment in the event of re-use

This policy states that personal protective equipment that is used during health care for patients should be single-use, and then disposed of immediately after use.

- It must be ensured that all necessary tools for cleaning and disinfection are available, such as: (water, liquid soap, detergent for washing, or medical alcohol with a concentration of 70%, or any disinfectant approved by the Ministry of Health)
- It must be ensured that the protective tools to be reused are not torn or damaged before they are cleaned, disinfected, and all treated as contaminated.
- Wash hands with soap and water before starting the cleaning and disinfection process, and wear appropriate protective equipment for that.

3.8.15 Treatment protocol for covid-19 patients,no (16)

This protocol issued by the WHO , for the treatment of COVID-19 patients, includes:

1. Triage patients
2. Infection control measures
3. Monitor the patient's vital signs
4. Laboratory sample collection
5. Treatment of acute respiratory failure
6. Reducing complications
7. Caring for infected pregnants women

Chapter Four

Discussion

4.1 Introduction

This chapter explains the study's major findings, Similar worldwide and regional research will be used to compare the study's findings, limitations ,conclusion and recommendations .In this study ,we evaluated compliance with COVID-19 prevention measures and identifying associated factors among health providers in maternity wards in west bank governmental hospitals , it is more likely that there is no significant association between compliance ,sociodemographic factors,and associated factors.

4.2 Socio-demographic data

The study findings table (3.1) revealed that more three quarteer (86.7%) of participants were midwifes , this finding in the line to Palestine Annual Statistics Report (2020) most of health workers in the maternity department in west bank governmental hospitals were midwives (265).

Participants had a mean work experience of (8.15± 5.349) and had a mean working hours per week of (40.80± 7.822) ,this result less than results of the study by Amanya et al., 2021(10.24± 8.97) and (47.6 ±15.09) respectively.This might due to take big sample contain different type of health care providers and different working hours weekly.

Also ,the finding s of table (3.2) in Appendix (E) revealed that the majority of the participants were from Rafidia governmental hospital - Nablus and Khalil Suliman governmental hospital –Jenin as table (13.3%),(12.7%)respectively .This may be centers in cites ,due to numbers of health care providers in these hospitals were concentrated comparing of other hospitals ,example; jericho were ten midwifes just.This might be small hospital

4.3 Compliance of participants regarding IPC measures for COVID-19 comparision with other studies

The study findings show (85.1%) of healthcare providers in West bank governmental hospital had good compliance with IPC for COVID-19 as table (3.9). These results were congruent with results that reveald about (87.41) were exposed by Kim et al .,(2019) in Korea .On the other hand , other studies indicated to lower percentages; Beyamo etal .,(2019) in their reserch in south west ethopia (65%) ,Amanya et al.,(2021) in northern Uganda (58%), and Wong et al., 2021in Hong Kong in China (54%). These differences could be related to methodological differences and disparities in socioeconomic variables

Also found compliance of hand hygiene practices of participants ,table (3.3) page .The rate reached up (98.1%).These results were congruent with other studies done by Wong et al., 2021(99%) and Ashinyo et al., 2021 in their research in Ghana es(88.4%).In contrast of study was done by t Beyamo et al ., 2019 showed lower percentage (58.0%). This might due to differences in the availability of suitable equipment.

Compliance with use alcohol-based hand rub or soap and water before and after touching a patient , and before and after cleaning/aseptic procedures the partcipants had good compliance of these practices table (3.3) in Appendix (E) , with rate of (86.35%)and (79.1%) respectively . But these findings were lower than study was done by Ashinyo et al., 2021 (96.3%) and (93.9%) respectively. This due to study of Ashinyo et al., 2021 was done in COVID-19 treatment centers ,snd the interaction was direct of patients with COVID-19 ,so compliance become high to avoid infection,while our study in maternity wards in governmental hospitals ,mothers with COVID -19 not keep in the ward ,transfer to COVID -19 centers that have places for delivery .Also,this could be due to differences in study participants, study time, health facility type, and measuring equipment.

while the compliance with use alcohol-based hand rub or soap and water after (risk of) body fluid exposure as table (3.3) shwoed a rate of (93.7%) and after touching a patient's surroundings with rate of (95.6%) .These reults similar to study of Ashinyo et al.,2021 (95.1%) and (96.3%) respectively. The participants had good compliance of wear PPE table (3.3) with rate of (82.9%) .This result lower than study of Ashinyo et

al., 2021 (90.6%,) and higher than Wong et al., 2021(73%). This was that study of Ashinyo et al., 2021 was done in COVID -19 treatment centers ,so PPE wear for health care providers were mandatory.Furthermore, this disparity may be due to management processes at health institutions, such as the formation of an IPC committee, the development of a strategic and operational plan, and other services provided inside the facility.

4.4 Individual factors of participants regarding IPC measures

4.4.1 knowledge of participants regarding IPC measures for COVID-19 comparision with other studies

Regarding knowledge of IPC measures for COVID-19 ,the study findings showed that about Two –thirds of participants had knoweledge table with score of (66.7%) as table (3.9) , this result similar to other sudies were done by Amanya et al., 2021 (69%) ,and Alrubaiee et al., 2020 in their study in Yemen(69.80%) .These results higher than result of Amira etal study .,2021 (58.9%). In contrast ,these results lower than study of Al-Faouri et al., 2021 in North of Jordan(81.35%). Also , results differed according to each item assessed as figure (6) .The findings of this study revealed that the vast majority (98.7%) of participants reported correct responses to item concerning the cleaning of frequently touched surfaces figure (6) , this result was in the same line of the study by Amanya et al., 2021(97.3%). In addition , (98.1%) of participants reported correst answers to item of cleaning of shared equipment .In congrount to the study result of by Amanya et al., 2021(89%). These diffrencies could be due to a lack on-the-job training,and lacking of regular training courses in govermental hospitals for healthcare workers

The study findings showed that more than (74%) answered correctly to the regarding the item of the standard precautions applied to all patients figure (6) . In contrast ,this result lower than study done by Al-Faouri et al., 2021(94%). This could be due to the study subjects or the methodology used. on the other hand , few participants reported correct answers regarding item of airborn precaution (17%) .This might due to lack of knowledge which recommends that training, auditing, and feedback mechanisms should be prioritized in order to develop knowledge.

The study findings also revealed that all participant (100%) perceived themselves to be at risk for acquiring COVID-19 , these were in difference with result of study by Shekhar et al ., 2021 which indicated that only (87 %)of participants perceived them at risk for acquiring COVID-19.This might due to difference of the time of study peroid , aim of the study . The aim of study by Shekhar et al .,2021, focus on the acceptance of HCPs of vaccine .May be their thinking depending that they take vaccine ,so this will be decrease their risk for COVID-19.

4.4.2Attitude of participants regarding IPC measures for COVID-19 comparision with other studies

The study findings show overall atittude was (55.9%) as table (3.9) ,this result inconsistent with results of other sudies done by Amira etal ,.2021(67.8%) and Alrubee et al ., 2021(85.10%).This might due to lack of knowledge , it can influence behavior by encouraging good attitudes and could be attributable to differences in the study's context, as well as differences in health-care personnel' awareness

The study findings table (3.4) indicated participants had positive atittude to items of removing rings, watches and bracelets is appropriate in surgical hand scrub,and gloves should be worn for non-critical procedures with rate of rate of (84.6%)and(87.3%) respectively.Also participants showed positive attitude to item of collection of sharp materials in Safety box with rate of (87.3%) table (3.4) .In contrast of the results of study by Al-Ahmari et al ., 2021 (51.4%) . This might due to shortage of necessary supplies .

4.4.3 Practice of participants regarding IPC measures for COVID-19 comparision with other studies

In this study about two third of participants had good practices (70.1%) as table (3.9) .The results were different relative to items that were assessed in table (3.5),the majority of participants had good hygiene practices,their responses were often and very often with rate of more than two third (79.13%).This results similarresults of study by shamsu-Deen et al ., 2020 (70.4%) and is different than the result of the study done by Beyamo et al ., 2019 (87.2%).This might due to difference of sample size and sociodemographic factors, avaliabilty of hand washing equipments

Also, most of the participants reported that they use the PPE ,and it use differed according to each item assessed table (3.5), the (72.7%),(63.9%), and (73.4%) of participants responses sometimes and often to wear gown ,wear the gloves ,and use other PPE equipments respectively.In contrast ,most participants responses were often and very often to wear mask about three quarteer (75.4%). These results are very similar to results of the study by Izhar et al .,2021(70.6%). In contrast to the results of study that was done by Beyamo et al .,(2019) (88.8%) of participants had good PPE practices .This might due to lack of important supplies , negligence among health care providers and lack of work safety measures .

Regarding handling sharp practices ,most responses of the participants were often and very often with rate of (86.7%) to item of use safety boxes to avoid needle sticks or sharp injuries .In consatant with results of the study Beyamo et al ., 2019 (67.6%).This might due to large sample size taken of study by Beyamo et al ., 2019 and lack of policy regarding sharp practices **.**

4.5 Institusional support of participants regarding IPC measures for COVID-19 comparision with other studies

The study findings revealed over institiusional support of participants were about three quarter(76.2%) as table (3.9) .This result consistant with result of study by Amanya et al., 2021 (70.7%).

The study findings revealed only (26.6%) of the participants reported always that their institution provided adequate (PPEs) as table (3.6) ,the results are close to study by Amanya et al.,2021 (18.7%) . In contrast to a study that was done by Beyoma et al,.2019 (60%) .Also, only (38%) and (25.3%) of them reported always Availability of hand-washing facilities and supplies for the collection of sharps and medical wastes. In contrast of study by Amanya et al., 2021 (50%)and (49.3%) respectively .This might due to pressure world wide on the health from all sides to provide all basic resources to hospitals to prevent corona virus during the pandemic resulted in weakness in health care system .

The study findings revealed (39.9%) of the participants reported sometimes there was monitoring and evaluation on IPC measures as table (3.6) in annex(8)page(87) .In contrast of the results of study by Beyoma et al,. 2019 (54%) and Al-Ahmari et al .,

2021 (69.9%). This could be due to no follow up regularly by infection control committe

The study findings revealed only (36.1%) of the participants reported yes for having guidlines in their departments .In consistent of the study result by Markos et al ,.2021 (95%).

After reviewing the policies and protocols related to COVID-19 in the place where I work as table (3.17), I found many policies and protocols that exist with the infection control officer that not clear for health care providers. The policies and protocols come to the infection control and control unit in the hospital, then are distributed to the departments in the morning shift, and are not follow up whether it has been read or even acted upon. Though,there is a specific document for each policy in each department, but it is clear that there is no informing the medical staff about them and no strict control over the implementation of the policies ,which reflect Inactivity of the infection control committee in hospitals .which their responsibility provided of these guidlines and orient their health care providers to protect their self and their patients from COVID-19 and other infectious diseases

4.6 Atittude of health care providers toward vaccine

The study findings revealed about(20.3%) of participants had not been got vaccine of COVID-19 as table (3.7), according to these reasons;in our study (10.8%) of the participants fear of potential side effects (10.8%),in contrast with results of Fakonti et al., 2021 (31%) .

Also , in this study findings revealed about (6.3%) of the participants lack of trust for those creating and distributing the vaccine(6.3%),in contrast with results of Fakonti et al,2021.

The study findings revealed (38%) of the participants don’t believe vaccines work (2.5%); and religion (0.6%), in contrast with results of shaekchar et al., 2021 ,they believe vaccine work (90%),didnt consider religous reason for not vaccinating (95%) .These results different due to different individual thinking related to vaccine.

Moreover ,(81%) of participants advise their friends and family to get vaccine for COVID-19, in contrast of results by shaekchar et al.,2021 (67%) ,while (19%) of them not advise them to get vaccine for COVID-19, in contrast of results by shaekchar et al.,2021 (3.3%) .

In addition to ,when participants were asked for the question of " COVID-19 Vaccine for health care workers should be, their answered differed regarding to; mandated by the government for all health care workers (58.9%), voluntary(25.9%), not sure (10.4%),and mandated by the employer, like Influenza vaccine (5.1%). In contrast of results by shaekchar et al., 2021 (67%),(16%),(0.9%).and (17.1%) respectively .This might due to the different mentalites and opinions of individuals.

4.7 Associations between compliance and other factors with socio-demographic factors

The study findings revealed there were no significant associations between compliance and sociodemographic factors (age ,occupation ,educational level attained ,length of working experince in years ,working hours per week ,and marital status).

These results on the same line as study by Amanya et al., 2021 .In contrst of results of study by Beyme et al .,2019 participants with age >25were more comply with IPC measures for COVID-19 with significant level (p- value .003).Also with the results of study by Markos et al.,2021 nurses and married participants were more comply of IPC measures with significant p-value (0.025) , (0.001) respectively .Also ,In this study findings there were no significant differnces between individual factors (knowledge ,attitude ,and practice) with (age,occupation ,marital status) the results on the same line with study by Amanya et al., 2021 and Michel et al., 2021 .In contrast with the results of study by Alrubiee et al .,2020 ,which showed that there was significant differences between age of participants and their knowledge as p-value (0.05) ,and there were significant differences between knowledge , attitude ,and practice with occupation as p-value (0.016),(0.018),and (0.023) respectively .

The findings of this study indicated that there were significant differences between education level and clinical practice to those who have Master degree (0.049)as table (3.12).These results in agreement with the study results by Alrubiee et al .,2020 ,which showed that perticipants with higher educational level more knowledgable as p-value (0.001).Also the study findings indicated that there were significant differences between knowledge of participants and their working hours per weekto those who working up to 35 hrs as table (3.14) .These results in contrast with results of study by Amanya et al ., 2021as p-value (0.434). Also the study findings revealed there were no

statisical significant between institusional support with (age, occupation ,working experince ,and marital status)

These differences could be came from another factors such as: Experince on the job,the disease was new for HCW , and fear to got infection and transmiting to family and friends, particularlly it transmitted by sneez ,cough, and speaking

4.8 Associations between compliance and associated factors with other studies

The study findings revealed there was no statistical significant between compliance , individual factors (knoweldge ,attitude ,and practice), and instituisonal factors While there was signficant between individual factors of the participants and institusional support table (3.16).In consistant of studies by Beyme et al., 2019 there was significant between compliance and institusional support(avalibility of PPE, training on standard prucation) ,p-value (0.001),(0.001) respectively.Study by Kim &Park ,2019 there was significant between compliance with knowledge of participants and institusional support ,p-value (0.034),(0.006)respectively.Markos et al ,.2021 ,there were significant differences between compliance with knowledge and institusional factors (guidlines and training) , p-value (0.001) and (0.001) respectively. Study by Amanya etal .,2021 there were significant differences between compliance and institusional factors with p-value(0.031).while there were no significant between compliance and knowledge .knowledge and participants' sociodemographic characteristics, IPC training or presence of guidelines.

4.9 Limitations of the study

There were some limitations to the current study, which can be stated as follows:
The first restriction is related to the method of data collection.Because there was no way to conduct a face to face survey among HCPs during the outbreak of the virus and the level of contagiousness, the data for this study were gathered through a web survey.As a result, compared to face to face meeting and the absence of a professional meeting , the data may be perceived as less reliable and accountable.

Anonymousness on the other hand, may make it easier for HCWs to communicate their actual feelings about workplace policies and health outcomes, as it prohibits responses from being tracked down and investigated.

In spite of above limitations, our research gives valuable perception into existing flaws in infection control policies and measures in the healthcare environment for international reference in order to meet HCWs' needs and concerns about workplace safety and health.

4.10 Conclusion and recommendation

4.10.1Conclusion

After reviewing previous studies, the study proved that the different countries of the world and Palestine in particular, there's a require for many studies in this field due to IPC measures for COVID -19 are consider on the most priority of health care Compliance of these measures reflected on improvement of people's well biengs .

Also ,the study revealed that (86.7%) of the participants were midwives,with a mean age of (30.79±5.022),with mean of working experince (8.15±5.349),and mean working hours per week (40.08 ±7.822).The majority of them had Bachelor's degree.Most of the participants had good compliance of IPC measures for COVID-19. This may be due to related to hospitals avaliabilty suffiecient supplies for hand washing and collection of sharp materials ,PPE .

On the other hand ,Complete non-compliance is due to no clear IPC guidlines for COVID-19 in the maternity departmen and there is no always monitoring and evaluation on standard prucations .In addition to , our study exposed no significant differences between compliance sociodemograpthic factors , individual factors and institusional factors.While there were significant differences between individual factors and institusional factors .

4.10.2 Recommendations

- More observational studies are recommended to evaluate the adherance of IPC measures for COVID-19 ,since they are more precise than questionnaires. This approach also provides insight into the reasons for this.

- Introducing of health care providers to IPC protocols and guidelines regarding COVID-19 in hospitals ,particulaly in maternity departments.
- Holding regular training courses about current and any up dated information of IPC measures for COVID-19 by the Hospital's Quality Assurance Department, to

inform the health care providers of all that is new and assure compliance through rigorse monitoring

- Hospitals must be constantly equipped with the necessary equipment to combat COVID-19 infection

- Health care providers should enhance their efforts to ensure that IPC measures and protocols are rigorously followed in the performance of their tasks in order of protecting themselves and their patients from COVID -19 infection.

- The PMOH must take into consideration obstacles that prevents vaccination between health care providers and their resolution to avoid health disparities caused by the pandemic

List of Abbreviations

Abbreviations	Meaning
HCWs	healthcare workers
WHO	World Health Organization
PPE	Personal Protective Equipment
IPC	Infection Prevention and Control
CDC	Centers for Disease Control
SPs	Standard Precautions
ICN	International Council of Nurses
OHS	Occupational Health and Safety
GOP	Government of Palestine
MOH	Ministry Of Health
NCDs	Noncommunicable diseases
HCAIs	Health-Care-Associated Infections
PCR	Polymerase chain reaction
CT	Computerized Tomography
UNFPA	United Nations Population Fund
HCPs	Health Care Providers HCPs
FFP	FFP Filtering Face Piece
P	Ratio provides a neutral property and equal (0.50)
OR	Odds Ratio
KAP	knowledge, Attitudes, and practices
IRB	Institutional Review Board
CL	Confidence Level
AOR	Adjusted Odds Ratio
FCV-19S	Fear of COVID-19 Scale
SARI	Syndrome Acute Respiratory Infection

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Appendices

Appendix (A):questionner

Section 1:Demographic Characteristics

القسم الأول : الصفات الديموغرافية

1- Age (In completed years) العمر بالسنوات	
2- Occupation المهنة	a) Nurse تمريض b) Midwife قبالة c) Doctor طب بشري
3- level of education attained التحصيل العلمي	a) Certificate ثانوية عامة b) Diploma دبلوم c) Bachelor's degree درجة البكالوريوس d) Master's Degree درجة الماجستير d) PhD دكتوراه
4- Working hours a week ساعات العمل في الأسبوع	
5- Length of work experience (in years) عدد سنوات الخبرة بالعمل	
6- Marital status الحالة الاجتماعية	1.Single عزباء 2.Married متزوجة 3.Separated منفصلة 4.Widdow أرملة
7- Name of hospital اسم المستشفى	

Section 2: Individual characteristics

القسم الثاني: الصفات الفردية

1-Health worker's Knowledge on infection prevention مدى معرفة العاملين بالقطاع الصحي حول الوقاية من العدوى Please answer honestly to the best of your knowledge يرجى الإجابة بمصداقية بناءً على معلوماتك

1- Standard Precautions should be used **يجب استخدام الاحتياطات القياسية**	**a)For patients with a known infection** **من أجل المرضى الحاملين للعدوى** **b) For patients with a suspected infection** **من أجل المرضى المحتمل إصابتهم بالعدوى** **c) For all patients** **لجميع المرضى** **d)For patients who look like they may have an infectious disease** **للمرضى اللذين يبدو أنهم ربما لديهم مرض معدٍ** **e) For patient where there is a risk of transmitting an infection** **للمرضى المعرضين لخطر لانتقال العدوى**
2- The 5moments when Hand hygiene should be performed **اللحظات الخمس التي يجب فيها إجراء نظافة اليدين**	**a)Before and after touching a patient, before and after a procedure** **قبل وبعد لمس المريض , قبل وبعد** **b)Before and after touching a patient, before and after a procedure and after touching a patients' surroundings.** **قبل وبعد لمس المريض قبل وبعد أي اجراء ، ايضًا قبل وبعد لمس المنطقة المحيطة للمريض** **c)Before and after touching a patient, before and after a procedure and after going to the toilet** **قبل وبعد لمس المريض ،قبل وبعد أي اجراء ، بعد استعمال المرحاض** **d) After touching a patient, before and after a procedure, after touching a patients' surroundings** **بعد لمس المريض ، قبل وبعد أي اجراء، قبل وبعد لمس المنطقة المحيطة للمرض** **e)Before touching a and after touching ,** **Patient's Surroundings. Before and** **after a procedure or body fluid exposure risk** **قبل وبعد لمس المريض ,قبل وبعد أي اجراء ,وبعد خطر التعرض للسوائل**
3- What is hand hygiene **ما هي نظافة اليدين**	**a) Decontaminating hands using an alcohol based hand rub** **تطهير اليدين باستخدام الكحول و فرك اليدين** **b)Washing hands with soap and water** **غسل اليدين بالماء والصابون** **c)Washing hands using water only** **غسل اليدين بالماء فقط** **d) A & b** **أ+ب**

4- Contact Precautions require the use of **تتطلب اجراءات (منع العدوى باللمس) استخدام**	**a)Gown and gloves** **القفازات والمعطف الطبي** **b)Surgical mask** **الكمامة الطبية** **c)N95 mask** **كمامة N95** **d)A and B** **أ+ب** **e) A and D** **أ+د**
5- Airborne precautions require the use of **تتطلب إجراءات (منع العدوى المنقولة بالجو) استخدام**	**a) Gown and gloves** **القفازات و المعطف الطبي** **b) Surgical mask** **الكمامة الطبية** **a) N95 mask** **كمامةN95** **b) A and B** **أ+ب** **e) A and D** **أ+د**
6- While segregating medical waste, infectious waste should be placed in **أثناء فرز النفايات الطبية ، يجب وضع النفايات المعدية في**	**a)Brown color-coded containers** **وعاء مرمز باللون البني** **b)Black color-coded containers** **وعاء مرمز باللون الأسود** **c)Yellow Color-coded containers** **وعاء مرمز باللون الأصفر** **d)All the above** **جميع ما ذكر**
7- Shared clinical equipment do not need to be cleaned between patient use **لا يلزم تنظيف المعدات السريرية المشتركة بين استخدام المرضى**	**a)Yes** **نعم** **b) No** **لا**
8- Frequently touched surfaces around a patient area (hospital) should be cleaned at least daily **يجب تنظيف الأسطح التي يتم لمسها بشكل متكرر حول منطقة**	**a) Yes** **نعم** **b) No** **لا**

المريض(المستشفى) يوميًا على الأقل					
9- Do you believe that you are at risk of Covid-19 infection هل تعتقدين أنك معرضة لخطر الإصابة بعدوى بكوفيد19؟	**a) Yes** نعم **b) No** لا				
Questions related to Attitudes أسئلة متعلقة بالمواقف	**Responses**				الإجابات
	Very dissatisfied "1" غير موافق بشدة	**Dissatisfied "2"** غير موافق	**Neutral "3"** محايد	**Satisfied "4"** موافق	**Very satisfied "5"** موافق بشدة
11- Telephones and door knobs are not source of infections. الهواتف ومقابض الأبواب ليست مصدرًا للعدوى					
12- Removing rings, watches and bracelets is sometimes appropriate in surgical hand scrub. إزالة الخواتم والساعات والأساور مناسبة أحيانًا في جراحة اليد .					
13-Using personal protective equipment is not an easy task استخدام معدات الحماية الشخصية ليس بالمهمة السهلة					
14-Using PPE harm patients psychologically, so do not use it استخدام معدات الوقاية الشخصية يضر المرضى نفسياً ، لذلك لا تستخدمها					
15-Don't use latex gloves if you have allergy to latex لا تستخدم قفازات اللاتكس إذا كان لديك حساسية من اللاتكس					

16- Do keep fingernails trimmed moderately short to reduce the risk of tearing gloves **احرص/ي على تقليم أظافر الأصابع بشكل قصير إلى حد ما لتقليل مخاطر تمزق القفازات**					
17- Gloves should be worn for non-critical procedures such as bed making **يجب ارتداء القفازات للإجراءات غير الحرجة مثل ترتيب السرير**					
18- Syringes and needles can be reused. **يمكن إعادة استخدام الحقن والإبر.**					
19-Sharp collection materials: **يتم جمع المواد حادة :**					
1. Safety box/ card box/ **خزنة / صندوق أمن .**					
2.Plastic pail with lid **سطل بلاستيك مع غطاء**					
3.Plastic pail without lid **سطل بلاستيكي بدون غطاء**					
4.Any open containers **أي وعاء مفتوح**					
20-Some wastes can be managed without using personal protective equipments **يمكن إدارة بعض النفايات دون استخدام معدات الحماية الشخصية**					

Atitude toward vaccination against COVID-19	**Response**
1-Have you been diagnosed with COVID - 19 ? **هل تم تشخيصك بـ كوفيد 19**	**a)Yes نعم** **b) No لا**
2- Did you get the vaccine for COVID19 ? **هل حصلت على لقاح كوفيد-19**	**a)Yes نعم** **If No : the reason is: اذا كان الجواب بالنفي , السبب هو** **A. Religion الدين** **B. Fear of potential side effects الخوف من الآثار الجانبية المحتملة** **C. Lack of trust for those creating and distributing the vaccine** **انعدام الثقة ممن يصنعون اللقاح ويوزعونه** **D. Don't believe vaccines work عدم الاعتقاد ان اللقاح يعمل**

3- COVID-19 Vaccine for health care workers should be: **كوفيد -19 يجب أن يكون لقاح للعاملين في مجال الرعاية الصحية**	**A. Mandated by the employer, like Influenza vaccine** **بتكليف من صاحب العمل مثل لقاح الانفلونزا** **B. Mandated by the government for all health care workers** **تكليف من قبل الحكومة لجميع العاملين في مجال الرعاية الصحية** **C. Not sure** **لست متأكدا** **D. Voluntary** **اختياري**				
4-Would you advise friends and family to get vaccinated for COVID-19 ? **هل تنصحين الأصدقاء والعائلة كوفيد -19 بالتطعيم ضد**	**a)Yes نعم** **b) No لا**				
Questions related to practices **أسئلة تتعلق بالجانب العملي**	**Responses الاجابات**				
	Never= 1 **بتاتا**	**Seldom= 2** **نادرا**	**Sometimes= 3** **أحيانا**	**Often= 4** **غالبا**	**Very often=5** **غالبا جدا**
21-How often do you wash your hands? **كم مرة تغسل يديك؟**					
1 Before any contacts **قبل أي تواصل**					
2.After any contacts **بعد أي تواصل**					
3.In between patients **بين المرضى**					
22- How frequent do you use the following? **ما مدى تكرار استخدامك لما يلي؟**					
1.Antimicrobial soap **صابون مضاد للميكروبات**					
2.Plain water **الماء العادي (حنفية)**					
3.Alcohol antisepsis and water **الكحول المطهر والماء**					
23- How frequent do you wear the following PPEs ? **ما مدى تكرار ارتداء معدات الوقاية الشخصية التالية؟**					
1.Gowan **المعطف الطبي**					
2.Gloves **القفازات**					
3.Apron **المريلة**					

4.Mask **كمامة**					
5.Others personal protective equipments **معدات الحماية الشخصية الاخرى**					
24- How often do you the following techniques to avoid needle stick or sharp injuries: **كم مرة تستخدم التقنيات التالية لتجنب وخز الإبرة أو الإصابات الحادة:**					
1.Avoid recapping and other hand manipulation of needles **تجنب إعادة تلبيس الإبر والتلاعب باليد الأخرى**					
2.Using safety boxes **استخدام صناديق الأمان**					
3.Avoid disassembling sharps **تجنب تفكيك الأدوات الحادة**					
4.Avoid over passing sharps with other person. **تجنب تجاوز الأدوات الحادة مع شخص آخر.**					

Section 3 : Compliance with Infection prevention and control
مدى الالتزام بالوقاية من العدوى ومكافحتها
Please rank your compliance with the following activities
يرجى تقييم مدى التزامك بالأنشطة التالية

Questions: **الاسئلة**	**Always =5** **دائما**	**sometimes=4** **معظم الوقت**	**neutral=3** **محايد**	**Rarely =2** **نادرا**	**Never =1** **ابدا**
25- Do you follow recommended hand hygiene practices? **هل تتبعين ممارسات نظافة اليدين الموصى بها؟**					
26- Do you use alcohol-based hand rub or soap and water before touching a patient? **هل تستخدمين فرك اليدين بالكحول أو الصابون والماء قبل لمس المريض؟**					
27- Do you use alcohol-based hand rub or soap and water before cleaning/aseptic procedures?					

هل تستخدمين مطهر اليدين بالكحول أو الصابون والماء قبل إجراءات التنظيف / التعقيم؟					
28- Do you use alcohol-based hand rub or soap and water after (risk of) body fluid exposure? هل تستخدمين فرك اليدين بالكحول أو الصابون والماء بعد (خطر) التعرض لسوائل الجسم					
29-Do you use alcohol-based hand rub or soap and water after touching a patient? هل تستخدمين مطهر اليدين بالكحول أو الصابون والماء بعد لمس المريض؟					
30- Do you use alcohol-based hand rub or soap and water after touching a patient's surroundings? هل تستخدمين فرك اليدين بالكحول أو الصابون والماء بعد لمس محيط المريض؟					
31-Do you follow IPC standard precautions when in contact with any patient? هل تتبعين الاحتياطات القياسية عند الاتصال بأي مريض؟					
32- Do you wear PPE when indicated? (PPE includes: Face mask, Face shield, Gloves, Goggles/glasses, Gown, Head cover, Respirator (e.g. N95 or equivalent), Shoe covers) هل ترتدي معدات الوقاية الشخصية عند الإشارة إليها؟ (تشمل معدات الحماية الشخصية: الكمامة ، ودرع الوجه ، والقفازات واق العينين / النظارات ، والمعطف الطبي ، وغطاء الرأس ، وجهاز التنفس الصناعي او ما يعادله N95)أغطية للاحذية (مثل: كمامة					

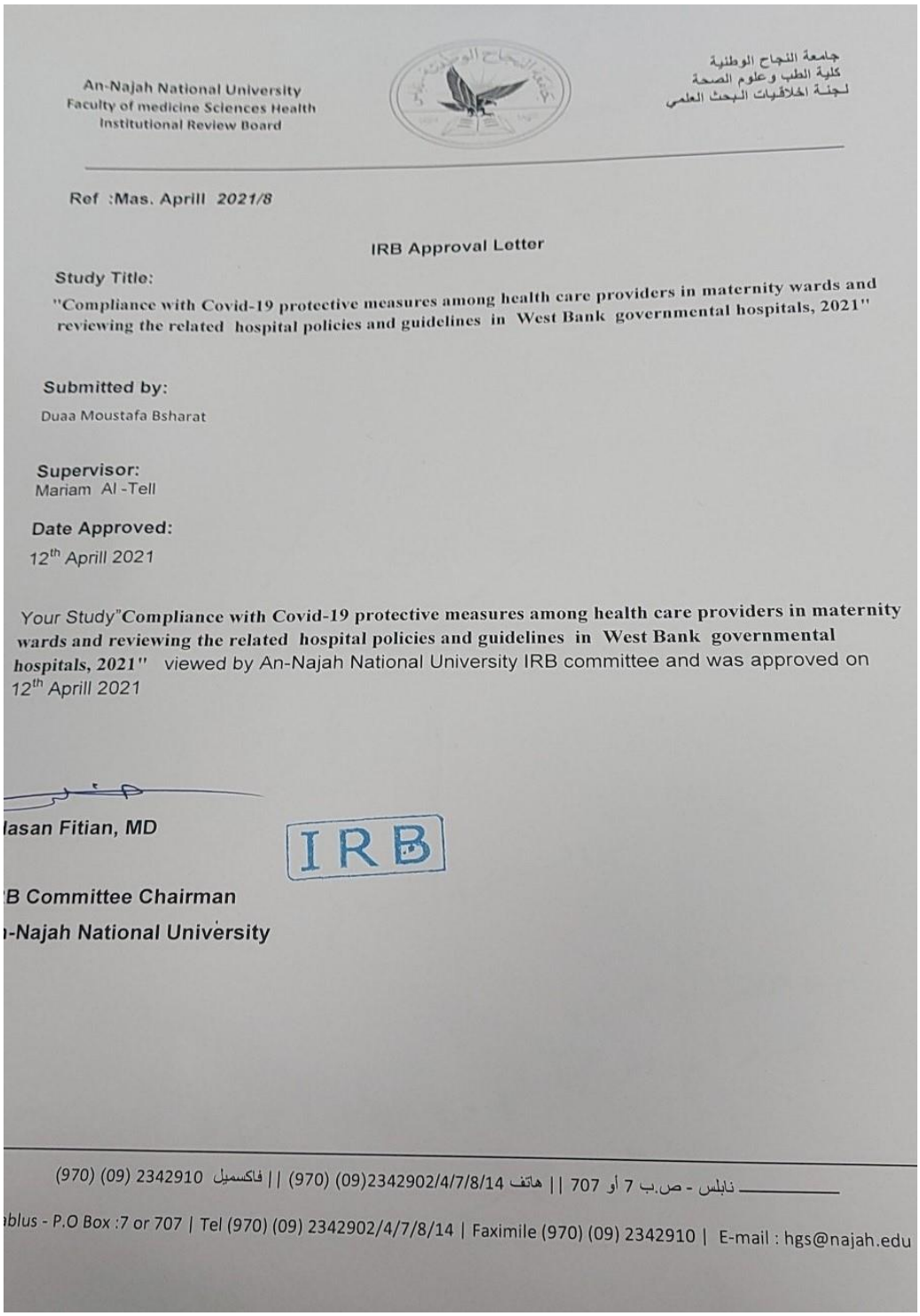
Section 4 : Institutional Commitment to infection prevention and Control

القسم الرابع :- الالتزام المؤسسي بالوقاية من العدوى ومكافحتها

Please rate how well your institution is committed to supporting the following
يرجى تقييم مدى التزام مؤسستك بدعم ما يلي :-

Questions : الاسئلة	Never =1 بتاتًا	Rarely =2 احيانا	Seldom=3 نادرا	Sometimes =4 غالبا	Always = 5 دائما
33- Provision of Adequate Personal protective Equipment (PPEs) eg. Gloves, masks, Aprons etc **توفير معدات الحماية الشخصية المناسبة (على سبيل المثال. قفازات ، أقنعة ، مرايل إلخ)**					
34-Availability of hand-washing facilities with clean running water and hand hygiene products **توافر مرافق لغسل الأيدي بمياه جارية نظيفة ومنتجات نظافة الأيدي**					
35-Provision of sufficient supplies for the collection of sharps and medical wastes **توفير المستلزمات الكافية لتجميع الأدوات الحادة والنفايات الطبية**					
36- Is there Monitoring &Evaluation on standard precautions? **هل هناك مراقبة وتقييم للاحتياطات القياسية**					
37- Have you received infection prevention and control training in regard to Covid-19? **توفير المستلزمات الكافية لتجميع الأدوات الحادة والنفايات الطبية؟**		**a) Yes نعم** **b) No لا**			
38-Do you have infection prevention and control guidelines in your department/ward in regard to Covid-19? **هل تلقيت تدريبًا على الوقاية من العدوى ومكافحتها فيما يتعلق بـ كوفيد 19 ؟**		**a) Yes نعم** **b) No لا**			

Appendix (B):Approval of IRB



An-Najah National University
Faculty of medicine Sciences Health
Institutional Review Board

جامعة النجاح الوطنية
كلية الطب وعلوم الصحة
لجنة اخلاقيات البحث العلمي

Ref :Mas. Aprill 2021/8

IRB Approval Letter

Study Title:

"Compliance with Covid-19 protective measures among health care providers in maternity wards and reviewing the related hospital policies and guidelines in West Bank governmental hospitals, 2021"

Submitted by:

Duaa Moustafa Bsharat

Supervisor:
Mariam Al-Tell

Date Approved:

12th Aprill 2021

Your Study"Compliance with Covid-19 protective measures among health care providers in maternity wards and reviewing the related hospital policies and guidelines in West Bank governmental hospitals, 2021" viewed by An-Najah National University IRB committee and was approved on 12th Aprill 2021

lasan Fitian, MD

IRB

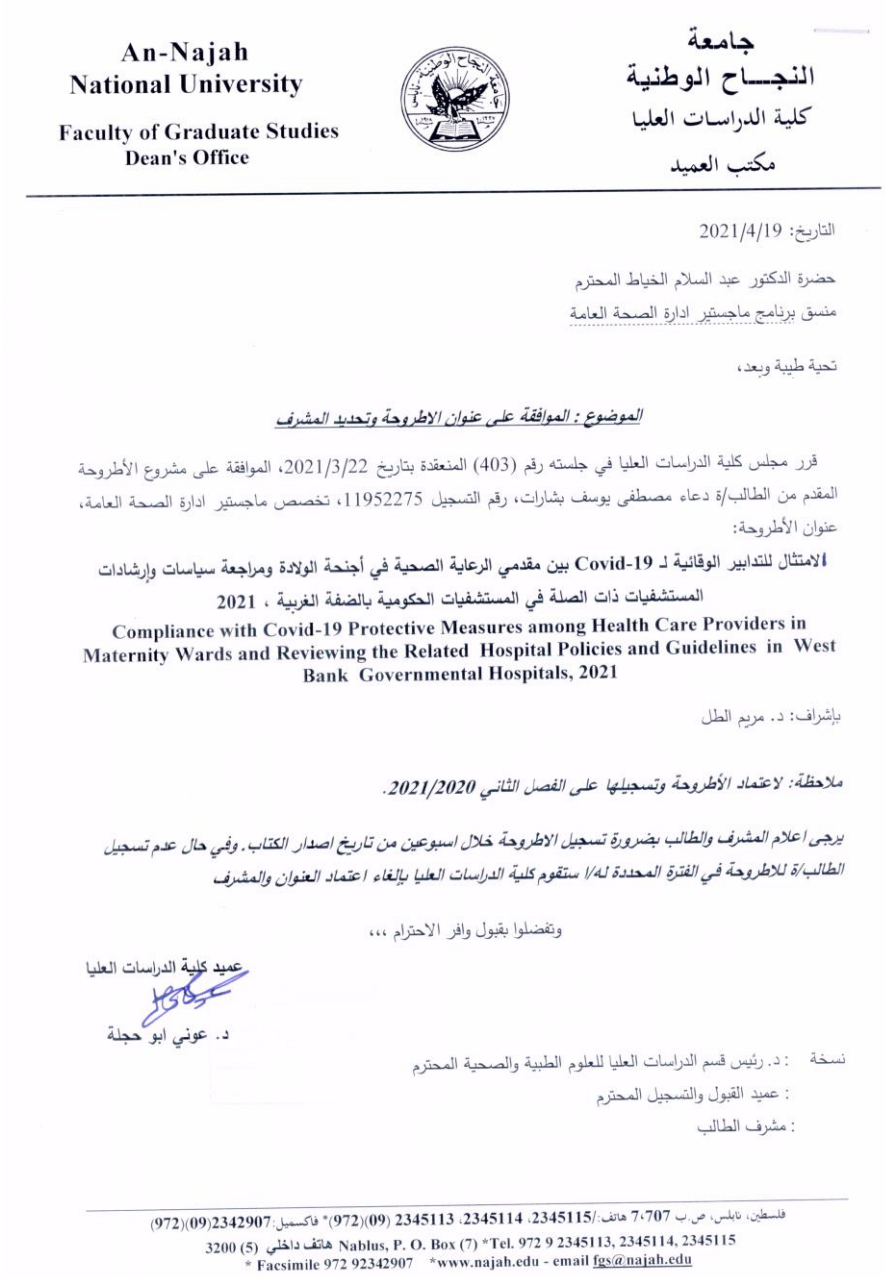
B Committee Chairman

-Najah National University

(970) (09) 2342910 فاكسميل || (970) (09)2342902/4/7/8/14 هاتف || 707 أو 7 ص.ب - نابلس

blus - P.O Box :7 or 707 | Tel (970) (09) 2342902/4/7/8/14 | Faximile (970) (09) 2342910 | E-mail : hgs@najah.edu

Appendix (C): Approval of faculty of graduate studies scientific research board at An-Najah National University.



An-Najah
National University
Faculty of Graduate Studies
Dean's Office

جامعة
النجـــاح الوطنية
كلية الدراسات العليا
مكتب العميد

التاريخ: 2021/4/19

حضرة الدكتور عبد السلام الخياط المحترم
منسق برنامج ماجستير ادارة الصحة العامة

تحية طيبة وبعد،

الموضوع : الموافقة على عنوان الاطروحة وتحديد المشرف

قرر مجلس كلية الدراسات العليا في جلسته رقم (403) المنعقدة بتاريخ 2021/3/22، الموافقة على مشروع الأطروحة المقدم من الطالب/ة دعاء مصطفى يوسف بشارات، رقم التسجيل 11952275، تخصص ماجستير ادارة الصحة العامة، عنوان الأطروحة:

الامتثال للتدابير الوقائية لـ Covid-19 بين مقدمي الرعاية الصحية في أجنحة الولادة ومراجعة سياسات وإرشادات المستشفيات ذات الصلة في المستشفيات الحكومية بالضفة الغربية ، 2021

Compliance with Covid-19 Protective Measures among Health Care Providers in Maternity Wards and Reviewing the Related Hospital Policies and Guidelines in West Bank Governmental Hospitals, 2021

بإشراف: د. مريم الطل

ملاحظة: لاعتماد الأطروحة وتسجيلها على الفصل الثاني 2021/2020.

يرجى اعلام المشرف والطالب بضرورة تسجيل الاطروحة خلال اسبوعين من تاريخ اصدار الكتاب. وفي حال عدم تسجيل الطالب/ة للاطروحة في الفترة المحددة له/ا ستقوم كلية الدراسات العليا بإلغاء اعتماد العنوان والمشرف

وتفضلوا بقبول وافر الاحترام ،،،

عميد كلية الدراسات العليا

د. عوني ابو حجلة

نسخة : د. رئيس قسم الدراسات العليا للعلوم الطبية والصحية المحترم
: عميد القبول والتسجيل المحترم
: مشرف الطالب

فلسطين، نابلس، ص.ب 7،707 هاتف:/2345115، 2345114، 2345113 (09)(972)* فاكسميل:2342907(09)(972)
Nablus, P. O. Box (7) *Tel. 972 9 2345113, 2345114, 2345115 هاتف داخلي (5) 3200
* Facsimile 972 92342907 *www.najah.edu - email fgs@najah.edu

Appendix (D): Consent form of questionner

بسم الله الرحمن الرحيم

أنا القابلة دعاء بشارات ,أود عمل دراسة إحصائية لمعرفة "مدى التزام الطاقم الطبي ب **الامتثال للتدابير الوقائية لـ** كوفيد-19في أجنحة الولادة في المستشفيات الحكومية بالضفة الغربية"

عزيزتي الزميلة لقد تم اختياركم لتكونوا جزءاً من عينة الدراسة، لذا نأمل منكم الإجابة بموضوعية على أسئلة الاستبيان، بوضع إشارة على الإجابة التي ترونها مناسبة واختيار إجابة واحدة فقط.

ستكون جميع المعلومات في هذه الاستمارة سرية للغاية وسوف تستخدم لغرض البحث العلمي فقط مع مراعاة السرية التامة والحرية الكاملة بعدم الإجابة عن أي سؤال.

شاكرين حسن تعاونكم

Appendix (E): Table

Table 3.10

Differencies between means of scores of compliance and their age (ANOVA test)

Items (mean ± standard deviation)	Age	N	Mean ± Std. Deviation	p-value sig	F-value
Participants compliance of IPC measures for COVID-19	24-26	26	4.1762 ± .67271	0.605	0.682
	27-29	44	4.2064 ± .53693		
	30-32	41	4.2578± .48629		
	33-35	26	4.4212± .51602		
	36+	21	4.2467± .87794		
	Total	158	4.2554 ± .59844		
Participants knowledge of IPC measures for COVID-19	24-26	26	5.9231± 1.29377	0.194	1.537
	27-29	44	6.5000 ± 1.13096		
	30-32	41	6.3415 ± 1.08650		
	33-35	26	6.0385± 1.31090		
	36+	21	6.5714± 1.28730		
	Total	158	6.2975±1.20777		
Participants attitude of IPC measures for COVID-19	24-26	26	2.9035±.44217	0.288	1.260
	27-29	44	2.8634± .42900		
	30-32	41	2.6980± .45766		
	33-35	26	2.6646±.52322		
	36+	21	2.7543± .79294		
	Total	158	2.7799± .51683		
Participants practice of IPC measures for COVID-19	24-26	26	3.7842±.62035	0.250	1.361
	27-29	44	3.9848±.35285		
	30-32	41	3.7083±.59914		
	33-35	26	3.7208±.70601		
	36+	21	3.8419±.85280		
	Total	158	3.8176±.60961		
Participants institutional support of IPC measures for COVID-19	24-26	26	3.5865±.92721	0.551	0.762
	27-29	44	3.8580±.63199		
	30-32	41	3.7805±.92398		
	33-35	26	3.8173±.99639		
	36+	21	4.0119±.93031		
	Total	158	3.8070±.86414		

Table 3.11

*Differencies of participants compliance means of scores and their occupation (ANOVA **test)***

Items (mean ± standard deviation)	Occupation	N	Mean ± Std. Deviation	p-value sig	F – value
Participants compliance of IPC measures for COVID-19	Nurse	3	4.2933 ±.26102	.918	.085
	Midwife	137	4.2477 ±.62187		
	Doctor	18	4.3078 ±.44952		
	Total	158	4.2554 ±.59844		
Participants knowledge of IPC measures for COVID-19	Nurse	3	6.3333 ±1.52753	.996	.004
	Midwife	137	6.2993 ±1.22693		
	Doctor	18	6.2778 ±1.07406		
	Total	158	6.2975 ±1.20777		
Participants attitude of IPC measures for COVID-19	Nurse	3	3.0267 ±.28868	.671	.400
	Midwife	137	2.7801 ±.54967		
	Doctor	18	2.7372 ±.16510		
	Total	158	2.7799 ±.51683		
Participants clinical practice of IPC measures for COVID-19	Nurse	3	3.9367 ±.50332	.706	.349
	Midwife	137	3.8017 ±.64408		
	Doctor	18	3.9189 ±.26101		
	Total	158	3.8176 ±.60961		
Participants institutional support of IPC measures for COVID-19	Nurse	3	4.0833 ±.38188	.278	1.290
	Midwife	137	3.8394 ±..88219		
	Doctor	18	3.5139 ±.73501		
	Total	158	3.8070± .86414		

Table 3.12.

Differences between means of scores of compliance and their educational level (ANOVA test)

Items	Level of Education	N	Mean± St.D	*p-Value*	F – Value
Participants compliance of IPC measures for COVID-19	Certificate	1	8.0000 ±0	.661	.532
	Diploma	16	5.8125±1.16726		
	Bachelor's degree	136	6.3235±1.21645		
	Master's Degree	5	6.8000±.44721		
	Total	**158**	**6.2975±1.20777**		
Participants knowledge of IPC measures for COVID-19	Certificate	1	2.9300±0	.138	1.862
	Diploma	16	2.8613±.38612		
	Bachelor's degree	136	2.7700 ±.52328		
	Master's Degree	5	2.7580 ±.80469		
	Total	**158**	**2.7799 ±.51683**		
Participants attitude of IPC	Certificate	1	3.4000 ±0	.912	.177
	Diploma	16	3.6725 ±.54190		
	Bachelor's	136	3.8124 ±.61432		

measures for COVID-19	degree				
	Master's Degree	5	4.5080 ±.15271		
	Total	**158**	**3.8176 ±.60961**		
Participants clinicl practice of IPC measures for COVID-19	Certificate	1	4.1300 ±0	.049	2.683
	Diploma	16	4.4025 ±.45388		
	Bachelor's degree	136	4.2328 ±.61699		
	Master's Degree	5	4.4260 ±.54072		
	Total	**158**	**4.2554 ±.59844**		
Participants institutional support of IPC measures for COVID-19	Certificate	1	1.5000 ± 0	0.017	3.505
	Diploma	16	3.8750 ± .96177		
	Bachelor's degree	136	3.7923 ± .84028		
	Master's Degree	5	4.4500 ± .37081		
	Total	**158**	**3.8070 ± .86414**		

Table 3.13

post hoc test of educational level

Level of education	level of education	Mean Difference	St.D	p.value
Diploma	Bachelor's degree	-.13985	.15859	.379
	Master's Degree	-.83550*	.30743	.007
Bachelor's degree	Diploma	.13985	.15859	.379
	Master's Degree	-.69565*	.27323	.012
Master's Degree	Diploma	.83550*	.30743	.007
	Bachelor's degree	.69565*	.27323	.012

Table 3.14

Diffrencies between means of scores of compliance and participants length of work experience (in years) (ANOVA)

Items	Experience/ years	N	Mean ± st.D	*p-value*	F– value
Participants compliance of IPC measures for COVID-19	1-5	60	6.2167 ±1.26346	.084	2.093
	6-10	56	6.4286 ± 1.07631		
	11-15	32	6.1875 ± 1.22967		
	16-20	5	6.0000 ± 2.12132		
	21+	5	6.8000 ± .83666		
	Total	**158**	**6.2975 ± 1.20777**		
Participants knowledge of IPC measures for COVID-19	1-5	60	2.8613 ± .40495	.674	.584
	6-10	56	2.7525 ±.47995		
	11-15	32	2.6469 ±.61402		
	16-20	5	2.4980 ± .69510		
	21+	5	3.2420 ± .93545		
	Total	**158**	**2.7799 ± .51683**		
Participants attitude of IPC measures for COVID-19	1-5	60	3.8598 ± .45878	.053	2.395
	6-10	56	3.7568 ± .59446		
	11-15	32	3.7372 ± .74259		
	16-20	5	3.6960 ± 1.09105		
	21+	5	4.6280 ± .43465		
	Total	**158**	**3.8176 ± .60961**		

Participants clinical practice of IPC measures for COVID-19	1-5	60	4.1857 ± .60639	.032	2.724
	6-10	56	4.2898 ± .50724		
	11-15	32	4.3312 ± .45709		
	16-20	5	4.7260 ± .35585		
	21+	5	3.7520 ± 1.61874		
	Total	**158**	**4.2554 ± .59844**		
Participants Institutional support of IPC measures for COVID-19	1-5	60	3.7750 ± .73747	.057	2.347
	6-10	56	3.7098 ± .92045		
	11-15	32	3.8359 ± .90163		
	16-20	5	4.0000 ± 1.26244		
	21+	5	4.9000 ± .22361		
	Total	**158**	**3.8070 ± .86414**		

Table 3.15

Distribution of participants length of working experince according to post hoc test

(I) Length of work experience (in years)	(J) Length of work experience (in years)	Mean Difference (I-J)	Std. Error	Sig.
1-5	6-10	.10305	.11086	.354
	11-15	.12265	.13061	.349
	16-20	.16383	.27772	.556
	21+	-.76817*	.27772	.006
6-10	1-5	-.10305	.11086	.354
	11-15	.01960	.13222	.882
	16-20	.06079	.27849	.828
	21+	-.87121*	.27849	.002
11-15	1-5	-.12265	.13061	.349
	6-10	-.01960	.13222	.882
	16-20	.04119	.28692	.886
	21+	-.89081*	.28692	.002
16-20	1-5	-.16383	.27772	.556
	6-10	-.06079	.27849	.828
	11-15	-.04119	.28692	.886
	21+	-.93200*	.37735	.015
21+	1-5	.76817*	.27772	.006
	6-10	.87121*	.27849	.002
	11-15	.89081*	.28692	.002
	16-20	.93200*	.37735	.015

Table 3.16

diffrencies of participants compliance means of scores and their their working hours/ week (ANOVA) test

Items	Working hours/week	N	Mean ±St.D	P-value	F-Value
Participants compliance of IPC measures for COVID-19	Up o to 35 h/w	36	6.9167 ± 1.02470	.377	1.063
	37-39	32	6.0938 ± 1.22762		
	40-41	47	5.9574 ± 1.12206		

	42-45	20	6.4000 ± 1.27321		
	46+	23	6.2174 ± 1.27766		
	Total	**158**	**6.2975 ± 1.20777**		
Participants knowledge of IPC measures for COVID-19	Up o to 35 h/w	36	2.9389 ± .69469	.005	3.864
	37-39	32	2.8609 ± .30221		
	40-41	47	2.7745 ± .45946		
	42-45	20	2.6170 ± .49029		
	46+	23	2.5709 ± .48985		
	Total	**158**	**2.7799 ± .51683**		
Participants attitude of IPC measures for COVID-19	Up o to 35 h/w	36	4.0317 ± .76049	.039	2.588
	37-39	32	3.8459 ± .37971		
	40-41	47	3.7840 ± .52840		
	42-45	20	3.5825 ± .65813		
	46+	23	3.7161 ± .65676		
	Total	**158**	**3.8176 ± .60961**		
Participants clinical practice of IPC measures for COVID-19	Up o to 35 h/w	36	4.4081 ± .73417	.080	2.125
	37-39	32	4.2487 ± .59432		
	40-41	47	4.1753 ± .53754		
	42-45	20	4.1270 ± .52878		
	46+	23	4.3013 ± .53461		
	Total	**158**	**4.2554 ± .59844**		
Participants Institutional support of IPC measures for COVID-19	Up o to 35 h/w	36	3.9167 ± .90435	.029	2.769
	37-39	32	4.1797 ± .75731		
	40-41	47	3.6755 ± .92065		
	42-45	20	3.6125 ± .71394		
	46+	23	3.5543 ± .80466		
	Total	**158**	**3.8070 ± 86414**		

Table 3.20

COVID-19 protocols and policies distributed to hospitals according to date

No	Name of policy or protocol	Date of declare policy
1	Updating the quarantine protocol for those infected and in contact with Covid-19 disease	01/02/2022
2	The outbreak of the Covid-19 epidemic the fifth wave, recommendations for the next stage, and the protocol for work in hospitals	01/02/2022
3	Sampling protocol update	01/02/2022
4	Receiving vaccinations against the Corona virus	08/08/2021
5	Handbook of policies and work procedures for combating and controlling infection with the Covid-19 virus in hospitals	July /2020
6	Central quarantine and home quarantine ,policy no (38)	6/4/2020
7	Epidemiological survey by phone, circular no (34)	1/4/2020
8	Putting on and taking off personal protective equipment in case of complete barrier isolation / level one policy no (29)	23/3/2020
9	Rational use of PPE for COVID-19/coronavirus	22/3/2020
10	Ambulance disinfection and cleaning policy when transporting a suspected or confirmed case of COVID-19 virus,policy no (26)	18/3/2020

11	Policy for cleaning and disinfecting reusable equipment for the COVID-19 patient ,no (25)	18/3/2020
12	The mechanism of disposal of medical waste resulting from the provision of health care to Covid-19 patients	18/3/2020
13	Criteria for sampling related to COVID-19,policy no (23)	14/3/2020
14	Collecting data on the n the COVID-19/Coronavirus hotline,policy no (21)	14/3/2020
15	Policy of cleaning and disinfecting personal protective equipment in the event of re-use	12/3/2020
16	Treatment protocol for covid-19 patients,no (16)	09/03/2020

Appendix (F): Figurs

Figure 11

Steps to remove full PPE

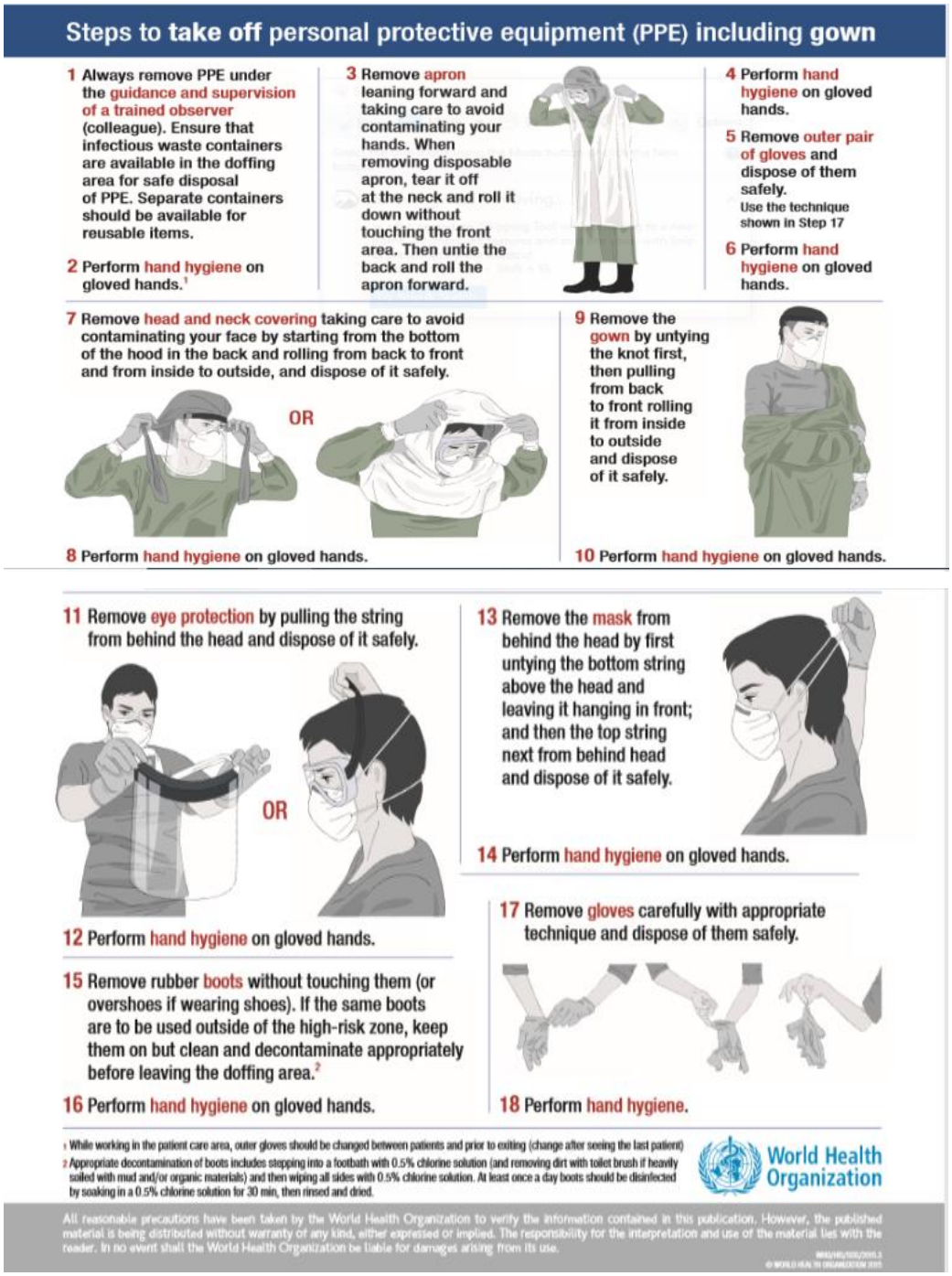
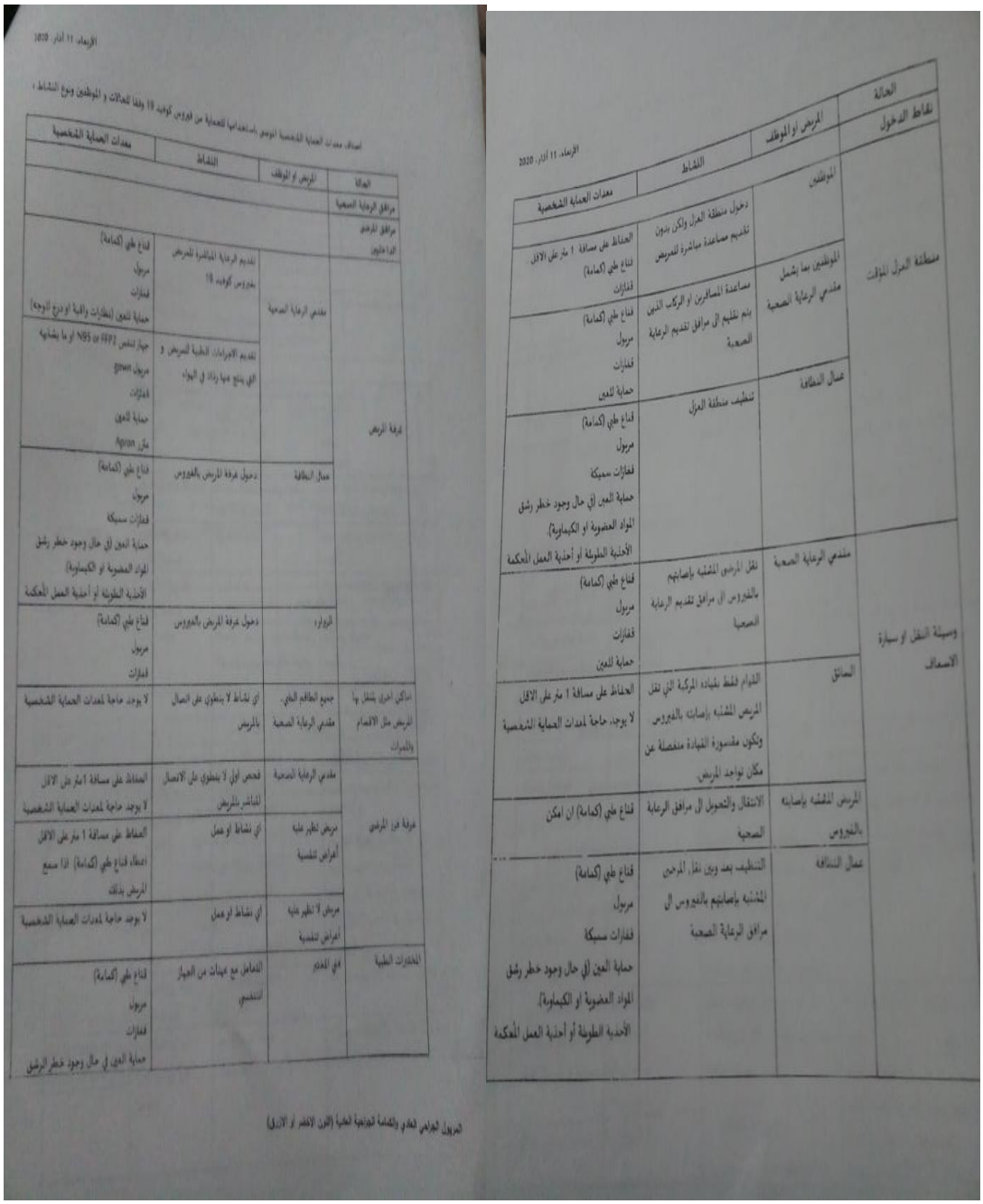


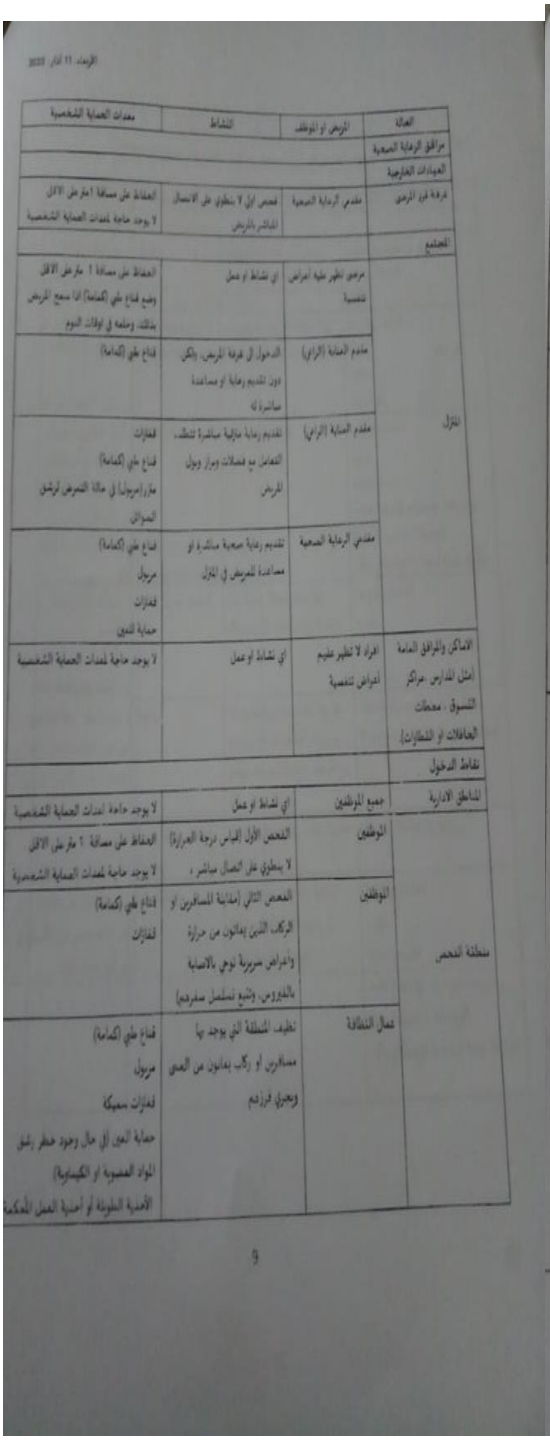
Figure 12

Rational use of PPE for COVID-19/corona virus



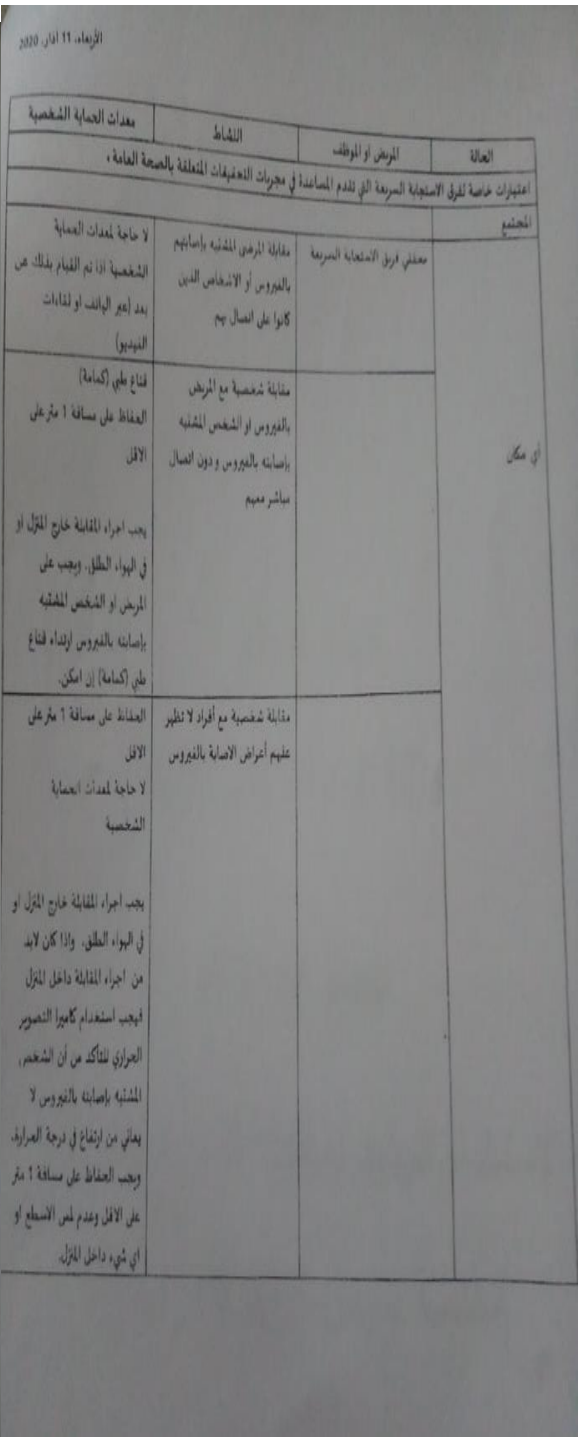
الحالة	المريض او الموظف	النشاط	معدات الحماية الشخصية
نقاط الدخول			
منطقة العزل المؤقت	الموظفين	دخول منطقة العزل ولكن بدون تقديم مساعدة مباشرة للمريض	الحفاظ على مسافة 1 متر على الاقل قناع طبي (كمامة) قفازات
	الموظفين بما يشمل مقدمي الرعاية الصحية	مساعدة المسافرين او التركب الذين يتم تقييم الى مرافق تقديم الرعاية الصحية	قناع طبي (كمامة) مريول قفازات حماية للعين
	عمال النظافة	تنظيف منطقة العزل	قناع طبي (كمامة) مريول قفازات سميكة حماية العين إلى حال وجود خطر رشق المواد العضوية او الكيماوية) الأحذية الطويلة أو أحذية العمل المُعكمة
وسيلة النقل او سيارة الاسعاف	مقدمي الرعاية الصحية	نقل المرضى المشتبه بإصابتهم بالفيروس الى مرافق تقديم الرعاية الصحيا	قناع طبي (كمامة) مريول قفازات حماية للعين
	السائق	القيام فقط بقيادة المركبة التي تقل المريض المشتبه بإصابته بالفيروس وتكون مقسورة القيادة منفصلة عن مكان تواجد المريض.	الحفاظ على مسافة 1 متر على الاقل لا يوجد حاجة لمعدات الحماية الشخصية
	المريض المشتبه بإصابته بالفيروس	الانتقال والتحويل الى مرافق الرعاية الصحية	قناع طبي (كمامة) ان أمكن
	عمال النظافة	التنظيف بعد ونقل المرضى المشتبه بإصابتهم بالفيروس الى مرافق الرعاية الصحية	قناع طبي (كمامة) مريول قفازات سميكة حماية العين إلى حال وجود خطر رشق المواد العضوية او الكيماوية) الأحذية الطويلة أو أحذية العمل المُعكمة

الحالة	المريض او الموظف	النشاط	معدات الحماية الشخصية
مرافق الرعاية الصحية			
مرافق المرضى الداخليين	مقدمي الرعاية الصحية	تقديم الرعاية المباشرة للمرضى بفيروس كورونا 19	قناع طبي (كمامة) مريول قفازات حماية للعين (نظارات واقية او درع للوجه)
غرفة المريض		تقديم الاجراءات الطبية للمريض و التي ينتج عنها رذاذ في الهواء	جهاز تنفس N95 or FFP2 او ما يضاهيه مريول gown قفازات حماية للعين مئزر Apron
	عمال النظافة	دخول غرفة المريض بالفيروس	قناع طبي (كمامة) مريول قفازات سميكة حماية العين إلى حال وجود خطر رشق المواد العضوية او الكيماوية) الأحذية الطويلة أو أحذية العمل المُعكمة
	الزوار	دخول غرفة المريض بالفيروس	قناع طبي (كمامة) مريول قفازات
اماكن اخرى ينتقل بها المريض مثل الاقسام والممرات	جميع الطاقم الطبي، مقدمي الرعاية الصحية	اي نشاط لا ينطوي على اتصال بالمريض	لا يوجد حاجة لمعدات الحماية الشخصية
غرفة فرز المرضى	مقدمي الرعاية الصحية	فحص اولي لا ينطوي على الاتصال المباشر بالمريض	الحفاظ على مسافة 1متر على الاقل لا يوجد حاجة لمعدات الحماية الشخصية
	مريض تظهر عليه اعراض تنفسية	اي نشاط او عمل	الحفاظ على مسافة 1 متر على الاقل ارتداء قناع طبي (كمامة) اذا سمح المريض بذلك
	مريض لا تظهر عليه اعراض تنفسية	اي نشاط او عمل	لا يوجد حاجة لمعدات الحماية الشخصية
المختبرات الطبية	في المختبر	التعامل مع عينات من العيار التنفسي	قناع طبي (كمامة) مريول قفازات حماية العين إلى حال وجود خطر الرشق



الأربعاء، 11 آذار 2020

الحالة	المريض أو الموظف	النشاط	معدات الحماية الشخصية
اعتبارات خاصة لفرق الاستجابة السريعة التي تقدم المساعدة في مجريات التعقيبات المتعلقة بالصحة العامة :			
المجتمع			
أي مكان	معظمي فرق الاستجابة السريعة	مقابلة المرضى المحتملين بإصابتهم بالفيروس أو الأشخاص الذين كانوا على اتصال بهم	لا حاجة لمعدات الحماية الشخصية اذا تم القيام بذلك عن بعد (عبر الهاتف او لقاءات الفيديو)
		مقابلة شخصية مع المريض بالفيروس او الشخص المحتمل بإصابته بالفيروس و دون اتصال مباشر معهم	قناع طبي (كمامة) الحفاظ على مسافة 1 متر على الأقل يجب اجراء المقابلة خارج المنزل او في الهواء الطلق. ويجب على المريض او الشخص المحتمل بإصابته بالفيروس ارتداء قناع طبي (كمامة) إن امكن.
		مقابلة شخصية مع أفراد لا تظهر عليهم أعراض الاصابة بالفيروس	الحفاظ على مسافة 1 متر على الأقل لا حاجة لمعدات الحماية الشخصية يجب اجراء المقابلة خارج المنزل او في الهواء الطلق. واذا كان لابد من اجراء المقابلة داخل المنزل فيجب استخدام كاميرا التصوير الحراري للتأكد من أن الشخص المحتمل بإصابته بالفيروس لا يعاني من إرتفاع في درجة الحرارة. ويجب الحفاظ على مسافة 1 متر على الأقل وعدم لمس الأسطح او اي شيء داخل المنزل.

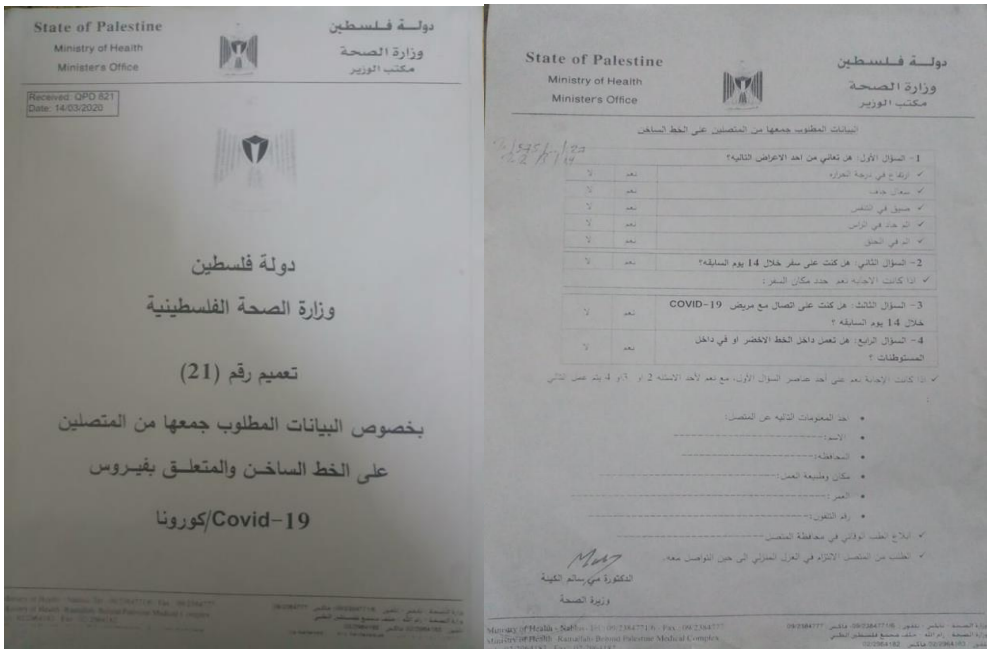


الأربعاء، 11 آذار 2020

الحالة	المريض أو الموظف	النشاط	معدات الحماية الشخصية
مرافق الرعاية الصحية			
العيادات الخارجية			
غرفة فرز المرضى	مقدمي الرعاية الصحية	فحص اولي لا يتطلب على الاتصال المباشر بالمريض	الحفاظ على مسافة 1 متر على الأقل لا يوجد حاجة لمعدات الحماية الشخصية
المجتمع			
المنزل	مرضى تظهر عليه أعراض تنفسية	أي نشاط او عمل	الحفاظ على مسافة 1 متر على الأقل. وضع قناع طبي (كمامة) اذا سمح المريض بذلك. وحلقه في اوقات الموم
	مقدم العناية (الزائر)	الدخول الى غرفة المريض. (لكن دون تقديم رعاية او مساعدة مباشرة له	قناع طبي (كمامة)
	مقدم العناية (الزائر)	تقديم رعاية مباشرة تتطلب التعامل مع فضلات ومواد وبول المريض	قفازات قناع طبي (كمامة) مئزر (مريول) في حالة التعرض لرشق السوائل
	مقدمي الرعاية الصحية	تقديم رعاية صحية مباشرة او مساعدة للمريض في المنزل	قناع طبي (كمامة) مريول قفازات حماية للعين
الاماكن والمرافق العامة امثل المدارس، مراكز التسوق ، محطات الحافلات او القطارات)	افراد لا تظهر عليهم اعراض تنفسية	أي نشاط او عمل	لا يوجد حاجة لمعدات الحماية الشخصية
نقاط الدخول			
المناطق الادارية	جميع الموظفين	أي نشاط او عمل	لا يوجد حاجة لمعدات الحماية الشخصية
منطقة الفحص	الموظفين	الفحص الأولي (قياس درجة الحرارة) لا يتطلوب على اتصال مباشر .	الحفاظ على مسافة 1 متر على الأقل لا يوجد حاجة لمعدات الحماية الشخصية
	الموظفين	الفحص الثاني (مقابلة المسافرين او الركاب الذين يعانون من حرارة واعراض ضربوية توحي بالاصابة بالفيروس. وتتبع تسلسل سفرهم)	قناع طبي (كمامة) قفازات
	عمال النظافة	تنظيف المنطقة التي يوجد بها مسافرون او ركاب يعانون من الحمى وتجري فرزهم	قناع طبي (كمامة) مريول قفازات سميكة حماية للعين (في حال وجود خطر رشق المواد العضوية او الكيماوية) الأحذية المطوية او أحذية العمل المحكمة

Figure13

Data to be collected from callers on the COVID-19/Coronavirus hotline,no (21)



State of Palestine
Ministry of Health
Minister's Office

دولـة فـلسطين
وزارة الصحة
مكتب الوزير

Received: QPD 821
Date: 14/03/2020

دولة فلسطين
وزارة الصحة الفلسطينية
تعميم رقم (21)
بخصوص البيانات المطلوب جمعها من المتصلين
على الخط الساخن والمتعلـق بفيـروس
كورونا/Covid-19

State of Palestine
Ministry of Health
Minister's Office

دولـة فـلسطين
وزارة الصحة
مكتب الوزير

البيانات المطلوب جمعها من المتصلين على الخط الساخن

1- السؤال الأول: هل تعاني من احد الاعراض التالية؟	نعم	لا
✓ ارتفاع في درجة الحرارة	نعم	لا
✓ سعال جاف	نعم	لا
✓ ضيق في التنفس	نعم	لا
✓ الم حاد في الرأس	نعم	لا
✓ الم في الحلق	نعم	لا
2- السؤال الثاني: هل كنت على سفر خلال 14 يوم السابقه؟	نعم	لا
✓ اذا كانت الاجابه نعم حدد مكان السفر :		
3- السؤال الثالث: هل كنت على اتصال مع مريض COVID-19 خلال 14 يوم السابقه ؟	نعم	لا
4- السؤال الرابع: هل تعمل داخل الخط الاخضر او في داخل المستوطنات ؟	نعم	لا

✓ اذا كانت الإجابة نعم على أحد عناصر السؤال الأول، مع نعم لأحد الاسئلة 2 أو 3 أو 4 يتم عمل التالي:

- اخذ المعلومات التاليه عن المتصل:
- الاسم:
- المحافظة:
- مكان وطبيعة العمل:
- العمر :
- رقم التلفون:

✓ ابلاغ الطب الوقائي في محافظة المتصل

✓ الطلب من المتصل الالتزام في العزل المنزلي الى حين التواصل معه.

الدكتورة مي سالم الكيلة
وزيرة الصحة

Ministry of Health - Nablus - Tel: 09/2384777/6 - Fax: 09/2384777
Ministry of Health, Ramallah Beyond Palestine Medical Complex

جـامعـــة النجاح الوطنية

كليـــة الدراســـات العليـــا

الامتثال للتدابير الوقائية لكوفيد-19 بين مقدمي الرعاية الصحية في أجنحة الولادة ومراجعة سياسات وإرشادات المستشفيات ذات الصلة في المستشفيات الحكومية بالضفة الغربية ,2021

إعداد

دعاء بشارات

إشراف

د. مريم الطل

قدمت هذه الرسالة استكمالا لمتطلبات الحصول على درجة الماجستير في إدارة الصحه العامة، من كلية الدراسات العليا، في جامعة النجاح الوطنية، نابلس- فلسطين.

2022

الامتثال للتدابير الوقائية لـكوفيد-19 بين مقدمي الرعاية الصحية في أجنحة الولادة ومراجعة سياسات وإرشادات المستشفيات ذات الصلة في المستشفيات الحكومية بالضفة الغربية ,2021

إعداد
دعاء بشارات
إشراف
د. مريم الطل

الملخص

معلومات أساسية: ظهر وباء فيروس كورونا (كوفيد −19) في عام 2019، وقد عُرف في جميع أنحاء العالم بكونه الخطر الأكثر قابلية للجدل من بين المخاطر التي تهدد الصحة العالمية في الوقت الحالي. ويُعتبر العاملون في مجال الرعاية الصحية ولا سيما الممرضات والممرضون والقابلات والأطباء، أكثر عرضة لخطر الإصابة بالعدوى لتعرضهم المهني في بيئات الرعاية الصحية المختلفة. وإحدى أكثر الطرق فعالية للحد من الإصابة بالعدوى بينهم هي اتباع التدابير الوقائية القياسية بغض النظر عمّا إذا كانت إصابة المريض مؤكدة أم ممكنة.

الأهداف: هدفت الدراسة إلى تقييم الامتثال لإجراءات الوقاية من عدوى كوفيد−19 ومكافحتها وتحديد العوامل المرتبطة بها بين مقدمي الخدمات الصحية في أجنحة الولادة في مستشفيات الضفة الغربية

المنهجية: أجريت دراسة مقطعية في أقسام الولادة في 12 مستشفى حكومي في الضفة الغربية. وقد تم جمع البيانات من 267 مشاركاً باستخدام طريقة أخذ عينات مناسبة. استخدام استبيان تم التحقق منه مسبقا وتطويره عن طريق الجمع بين محتويات 3 استبيانات لدراسات سابقة. تم استخدام الحزمة الإحصائية للعلوم الاجتماعية (SPSS) الإصدار 22 لتحليل البيانات وتم فحص فرضيات الدراسة على مستوى الدلالة الإحصائية (أ ≤0.05).

النتائج: أظهرت النتائج أن غالبية المشاركين (85.1٪) يمتثلون بمستوىً عالٍ لتدابير الوقاية ومكافحة العدوى (IPC) فيما يتعلق بوباء كوفيد-19. لم تجد النتائج فروق ذات دلالة إحصائية في مقاييس تدابير الوقاية ومكافحة العدوى (IPC) بين الامتثال والعوامل الاجتماعية والديموغرافية والعوامل الفردية والعوامل المؤسسية.

الاستنتاجات: على الرغم من ذلك، أبدى غالبية المشاركين مستوىً عالٍ من الامتثال الوقاية ومكافحة العدوى (IPC) الخاصة بوباء كوفيد-19. وجاء هذا الامتثال الجيد نتيجةً لتوفر ما يكفي من لوازم لغسل اليدين ومعدات الحماية الشخصية (PPEs). ومع ذلك، نتج عدم الامتثال الكامل بين مقدمي الرعاية الصحية في أجنحة الولادة عن عدم معرفتهم بتدابير الوقاية ومكافحة العدوى (IPC) الخاصة بوباء كوفيد -19 وعدم وجود مراقبة وتقييم دائمان فيما يتعلق بالأمر. ويوصى بإجراء المزيد من الدراسات القائمة على الملاحظة لتقييم مدى الامتثال لتدابير الوقاية ومكافحة العدوى (IPC) فيما يتعلق بوباء كوفيد-19، بالإضافة إلى عقد دورات تدريبية منتظمة حول المعلومات الحالية وأي معلومات محدثة عن تدابير الوقاية ومكافحة العدوى (IPC) لكوفيد-19 لإبلاغ مقدمي الرعاية الصحية بكل ما هو جديد وضمان الامتثال من خلال مراقبة الدقة.

الكلمات المفتاحية: الامتثال، مقدمي الرعاية الصحية، كوفيد-19، تدابير الوقاية، الضفة الغربية