

**ASSESSMENT OF FACTORS AFFECTING THE PRACTICE OF ASEPTIC
TECHNIQUE AMONG NURSES IN SELECTED WARDS IN UNIVERSITY OF BENIN
TEACHING HOSPITAL (UBTH) BENIN CITY**

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BENIN CITY.**

SEPTEMBER, 2023

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**IN PARTIAL FULFILLMENT OF THE REQUIREMENT OF THE NURSING AND
MIDWIFERY COUNCIL OF NIGERIA FOR THE AWARD BACHELOR OF NURSING
SCIENCE**

SUPERVISOR: MRS INIOMOR M.

SEPTEMBER, 2023

DECLARATION

This is to declare that this research project titled ASSESSMENT OF FACTORS AFFECTING THE PRACTICE OF ASEPTIC IN SELECTED WARDS IN UNIVERSITY OF BENIN, BENIN CITY, EDO STATE was carried out by MOSES JULIET OKE is solely the result of my work except where acknowledged as being derived from other person(s) or resources.

Matriculation number BMS1702168 in the Department of Nursing Science, School of Basic Medical Science, University of Benin, Benin City.

Signature _____

Date _____

CERTIFICATION

This is to certify that this project was carried out by **MOSES JULIET OKE** with matriculation number **BMS1702168** under my supervisor Mrs. M.A Iniomor in nursing department, school of basic sciences, university of benin, Edo state for the award of Bachelor of Nursing Science.

Mrs. M.A Iniomor
(PROJECT SUPERVISOR)

Date

Dr.(Mrs) R.E. ESEWE
(Head of Department)

Date

ABSTRACT

Aseptic technique is maintaining a sterile environment to stop the spread of infections in malical settings. The aim of this study is to access the factors affecting the practice of aseptic technique in university of Benin teaching Hospital in selected wards. A descriptive design was used for this study: A self-structured questionnaire was used for data collection. The study shows that 54.4% had fair knowledge of aseptic technique, 44.89% had poor knowledge while 0.8% has good knowledge. 92% of nurses had high level of adherence while 8% had poor level of adherence. There is no significant Relationship between years of experience and adherence to aseptic technique among nurses in selected wards in university of Benin teaching hospital (UBTH). Since the calculated p value is greater than the critical p value then we reject the null hypothesis. Therefore it shows that there is a significant association between years of experience and adherence to aseptic techniques among nurses in selected wards in UBTH. There is no relationship between age and level of knowledge about aseptic technique among nurses in selected wards in University of Benin Teaching Hospital (UBTH). Since the calculated p value is greater than the critical p value then we reject the null hypothesis. Therefore it shows that there is a significant association between age and level of knowledge about aseptic techniques among nurses in selected wards in UBTH. In view of this study, there should be constant training of nursing staff on aseptic techniques and all aseptic tools and resources should be made available to nursing staff

Key points: Aseptic technique. Knowledge, Adherence, significant, Practice

DEDICATION

I dedicate this work to God almighty who gave me the wisdom, knowledge and understanding to carry out this research work.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Aseptic technique is maintaining a sterile environment to stop the spread of infections in medical settings (Carrisa, 2018). For patients to be protected from healthcare-associated infections (HAI), aseptic technique is a critical infection prevention capability (Stephen and Simon, 2018). The use of surgical gloves, surgical attire, preoperative aseptic skin preparation, aseptic instrument preparation, and aseptic environment management are all examples of aseptic method practices (Thi my and Ngoc minh, 2021). The aseptic method is a group of infection-control techniques designed to shield patients against diseases brought on by the transmission of dangerous microorganisms (Clare & Rowley, 2018). Nurses perform aseptic procedures in many nations' general ward settings, although there have been reports of variations in practice, and there is evidence to suggest that the underlying concepts of aseptic technique are not well grasped (Dinah et al., 2018). Healthcare practitioners who use aseptic method have shown decreased variability and increased compliance (Simon and Stephen, 2018). Hospital-acquired infections are a significant threat to patient safety worldwide (Simon and Stephen, 2018). Due to their constant client contact, healthcare professionals, and nursing students in particular, are at a high risk for hospital acquired infections (HAIs) (Evans et al., 2021). Infection is a concern that could arise in operating rooms. In order to avoid infections and protect patients from microorganisms in the operating room, one of the circulating nurses' responsibilities is to use the aseptic method (Hamed et al., 2022). The second most common cause of death for hemodialysis users and the most frequent reason for hospital admission is infection. Dialysis patients have a higher risk of infection than nondialysis patients (Yassin et al., 2018).

Healthcare-associated infection, which significantly increases morbidity and death in hospitalized patients, is the most common issue (Clare & Rowley, 2018). In hemodialysis centers, which are regarded as high-risk environments, blood stream infections (BSIs) are common. One of the BSIs detected in hemodialysis units throughout the Middle East, particularly in Egypt, is the hepatitis C virus (Nguyen et al., 2019). By closely observing infection control practices such aseptic technique, disinfection protocols, equipment maintenance, and careful observation of all processes that can cause microbial contamination, infections in dialysis units can be decreased (Vijayan & Boyce, 2018). Regular training and education on infection control practices should be provided to both new hires and healthcare workers (Vijayan & Boyce, 2018).

Aseptic technique is one of the most prevalent and important clinical competencies in healthcare. It requires medical professionals to follow a single aseptic technique that can be proved through training and audit (Clare & Rowley, 2018).

Burn wound infection is thought to be the most frequent complication, with sepsis, pneumonia, lung failure, acute renal failure, and multi-organ failure also being frequent ones (Buksh et al., 2019). The majority of burn wound infections cause morbidity and death in burn patients and are very challenging for nurses to handle Buksh et al (2019). Along with performing a variety of coordination tasks, the nurse should also be an expert in wound care. This includes taking care of wounds and monitoring them for any odd changes that may occur when burn wounds heal, whether naturally or with the help of grafting and excision. In this method, the nurses are able to manage pain and avoid burn infection (Kalsoom, Tariq, Ali & Noor 2018).

Infection is a concern that could arise in operating rooms. In order to avoid infections and protect patients from microorganisms in the operating room, one of the circulating nurses' responsibilities is to use the aseptic method (Hamed et al., 2022). Despite the fact that surgical

site infections are a major issue, it is claimed that 70% of these infections can be avoided if perioperative staff adhere to evidence-based recommendations (Fillz and Hale, 2022). The objectives and key points in surgical procedures have always been to increase the operating room's utilization efficiency, control nosocomial infections from aseptic surgical incisions in orthopedics, lower the rate of surgical incision infection, and ensure the quality of medical care (Min and Timing, 2021). Infections, pressure ulcers, and falls related to healthcare are all being worked on in an effort to improve patient safety (SALAR, 2019). The criteria for a happy birthing experience in intrapartum care now include patient safety (WHO, 2018). Birth attendant compliance is still low despite current attempts to promote hand hygiene in healthcare institutions (Yolisa et al., 2021). According to Nyflit et al. (2018), maternal death during pregnancy and childbirth is infrequent and is regarded as a serious human tragedy. The majority of current improvement efforts either treat hand hygiene as one of a generic range of hygiene behaviors or concentrate on a small number of recognized behavioral variables (Yolisa et al., 2021). A higher quality of aseptic technique can lessen the incidence of bloodstream infections that are connected to vascular access operations for patients (Andrew et al., 2022).

The main aim of this study is to assess the factors affecting the practice of aseptic technique in selected wards in university of Benin teaching hospital (UBTH).

1.2 Statement of Problem:

Despite the aseptic technique's well-documented benefits of minimizing healthcare-associated infections, some wards' medical staff vary in their use of it. The use of aseptic technique can be impacted by a number of variables, including a lack of understanding, poor training, workload, time restraints, and insufficient resources. In order to identify areas for improvement and create focused interventions to enhance aseptic technique adherence and lower the risk of healthcare-

associated infections in certain wards, it is required to examine these parameters and their impact on the practice of aseptic technique.

1.3 Objective of the Study

The aim of the study was to assess the factors affecting the practice of aseptic technique among nurses in labor ward, orthopedic ward, renal ward, burns ward, operating room and surgical ward in university of Benin teaching hospital (UBTH).

specific Objectives:

1. To identify the level of aseptic technique knowledge among nurses in selected wards in University of Benin Teaching Hospital (UBTH)
2. To examine the level of adherence to aseptic technique among nurses in selected wards in University of Benin Teaching Hospital (UBTH)
3. To ascertain the availability of tools and resources required to practice aseptic technique in selected wards in UBTH.

1.4 Research Questions:

1. What is level of aseptic technique knowledge among nurses in selected wards in UBTH?
2. What is the level of adherence to aseptic technique in selected wards in University of Benin Teaching Hospital (UBTH)
3. What are the available tools and resources required to practice aseptic technique among nurses in selected wards in university of Benin teaching hospital (UBTH)

1.5 Research Hypothesis:

1. There is no significant relationship between years of experience and adherence to aseptic technique practice among nurses in selected wards in university of Benin teaching hospital (UBTH).
2. There is no significant relationship between age and knowledge about aseptic technique among nurses in university of Benin teaching hospital (UBTH).

1.6 Significance of the Study:

The practice of aseptic technique is crucial in preventing healthcare-associated infections, which can lead to increased morbidity, mortality, and healthcare costs. The aim of this study is to assess the factors affecting the practice of aseptic technique among nurses in university of Benin teaching hospital, (UBTH). Hospital-acquired infections are a significant threat to patient safety worldwide (Simon and Stephen, 2018). Aseptic technique is an essential tool for preventing healthcare-associated infections, as it involves methods to prevent the spread of pathogens from one person to another. The findings of this study will provide insights into the factors that affect the practice of aseptic technique among nurses at a tertiary institution. This information will be useful in developing interventions to improve the knowledge and practice of aseptic technique among nurses. The results can also contribute to the development of policies and guidelines for aseptic technique in healthcare institutions.

In conclusion, the assessment of factors affecting the practice of aseptic technique among nurses in university of Benin teaching hospital, UBTH is crucial in improving patient outcomes and reducing healthcare-associated infections. This study will help to identify the gaps in knowledge and practice of aseptic technique, as well as provide insights into interventions to improve aseptic technique among nurses.

1.7 Scope of Study:

This study focuses on assessment of the aseptic technique among nurses in selected wards in university of Benin teaching hospital. It covers nurses in Burns unit, labor ward, orthopedic ward, renal ward, surgical ward and operating unit at University of Benin Teaching Hospital, Edo State , Benin City.

1.8 Operational Definition of Terms:

Aseptic technique: Aseptic technique is a set of practices that shields both patients and healthcare professionals from infections brought on by contact with blood, bodily fluids, and human tissue (carrisa, 2018).

HCAI: Hospital Care Acquired Infection

BSIs: Bloodstream Infection(s)

UBTH: University of Benin Teaching Hospital.

CHAPTER TWO

LITERATURE REVIEW

This chapter covers conceptual review, theoretical review, empirical review. It talks about related or already existing study to this topic.

2.1 Conceptual Review

2.1.1 Concept of aseptic technique:

Protecting patients from healthcare-associated infections (HAI) requires proficiency in aseptic technique as crucial infection prevention skill. Reduced variability and increased compliance with aseptic technique have been shown by healthcare practitioners employing the Aseptic Non-Touch Approach (ANTT) aseptic technique (Simon, Stephen, 2018). All infection prevention programs are generally aseptic technique, however the terminology used to describe it varies (Simon and Stephen, 2018). According to all guidelines, aseptic technique, which entails infection prevention measures intended to protect patients from infection when undergoing invasive clinical procedures, is a crucial competency in the prevention of infections. However, none of the standards offer a thorough description of what aseptic technique is or how it should be used to guarantee patient safety (Stephen, Simon, 2018).

2.1.2 Barriers to Adherence to aseptic technique

1. Material and resources
2. Nurse's education
3. Nurse's behaviour
4. Patient's financial constraint

2.1.3 When to Use Aseptic Technique:

The majority of medical settings employ aseptic procedures. When a medical expert wants to inject something into your body, they are most crucial. The following procedures use aseptic technique:

1. putting in PICC lines
2. carrying out dialysis
3. putting catheters in
4. Managing IVs
5. Putting in chest tubes
6. performing operations
7. Dressing wounds

Putting in PICC lines: A peripherally inserted central catheter (PICC) line is a long, thin tube that is inserted into a vein in the arm and threaded through to a large vein near the heart. This procedure requires aseptic technique to prevent the introduction of bacteria into the bloodstream.

Carrying out dialysis: Dialysis is a medical procedure used to filter waste products and excess fluid from the blood when the kidneys are not functioning properly. Aseptic technique is essential during dialysis to prevent infections and maintain a sterile environment.

Putting catheters in: Catheters are flexible tubes inserted into the body to drain fluids, collect samples, or deliver medications. Aseptic technique is used when inserting catheters to minimize the risk of introducing bacteria into the body, which could cause urinary tract infections or other complications.

Managing IVs: Intravenous (IV) therapy involves delivering fluids, medications, or nutrients directly into the veins. Aseptic technique is employed when inserting IV catheters and managing IV lines to reduce the risk of introducing pathogens into the bloodstream.

Putting in chest tubes: Chest tubes are inserted into the chest to drain air, fluid, or blood from the pleural space surrounding the lungs. Aseptic technique is used during the insertion of chest tubes to prevent infections and maintain a sterile environment.

Performing operations: Aseptic technique is crucial during surgical procedures to prevent surgical site infections. Sterile equipment, including surgical instruments, gloves, masks, and gowns, are used, and the surgical field is prepared and maintained in a sterile manner.

Dressing Pwounds: When dressing wounds, aseptic technique is used to minimize the risk of infection. Sterile dressings and gloves are used, and the wound is cleaned and prepared in a sterile manner before applying the dressing

2.1.4 Types of Aseptic Technique

1. Sterile technique
2. Standard precaution
3. Surgical technique

2.1.5 Elements of Aseptic Technique

1. Barrier
2. Contact guidelines
3. Tools and patient preparation
4. Environmental control

2.1.6 Effect of non- adherence to aseptic technique

1. Central line associated bloodstream infection (CLABSI)
2. Catheter associate urinary tract infection (CAUTI)
3. Surgical site infection (SSI)
4. Ventilator associated pneumonia (VAP)

2.1.7 Types of Surgical Sites Infections (SSI):

1. Only the skin and subcutaneous tissue surrounding the incisional site are infected in a superficial incisional infection (SSI).
2. Deep Incisional SSI: The fascial and muscle layers surrounding the incisional site are infected.
3. Organ/Space SSI: An infection can affect any area of the anatomy that had surgery and was opened or moved, aside from the incisional site.
4. Early onset: A surgical site infection (SSI) with an early onset is one that appears within the first 48 to 72 hours following surgery and is typically brought on by bacteria that were present before or during the procedure.
5. Late onset: SSI with a late start is an infection that appears more than 72 hours after surgery and is typically brought on by bacteria that were brought into the hospital.
6. Chronic SSI: An infection that lasts longer than 30 days following surgery and is typically brought on by bacteria that build biofilms or are antibiotic-resistant.

2.1.8 Prevention of Infection

1. Hand hygiene
2. Sterilization

3. Personal protective equipment
4. Vaccination
5. Isolation
6. Antibiotic stewardship

2.1.9 Pathophysiology of Infection from SSI or HCAI:

Microorganisms like bacteria, fungi, and viruses can enter the body through compromised skin, whether as a result of a cut, puncture, or other trauma. They can then cause an infection. A number of steps are involved in the pathophysiology of infection from an open skin, including: Microorganisms that enter the body colonize the skin, multiply, and create a biofilm. The microbes can elude the immune system and withstand antimicrobial agents thanks to this biofilm, which serves as a protective barrier. When the immune system notices the presence of microorganisms, an inflammatory reaction is triggered in an effort to contain and get rid of them. Redness, warmth, pain, and swelling are some of the symptoms of infection that are brought on by this response. Tissue Damage: In cases of severe infections, the inflammatory reaction may result in tissue damage, which can break down the skin's protective barrier and allow bacteria to enter deeper tissues. Transmission: The infection has the potential to spread to other bodily areas, resulting in systemic symptoms like fever, chills, and malaise.

Several approaches, including debridement of the wound, administration of antibiotics or antifungal medications, and management of the symptoms, are used to treat an infection resulting from an open wound. Skin infection prevention is essential and includes practices like good wound care, sanitation, and vaccination against particular infectious agents.

2. 2 Empirical Review

2.2.1 Knowledge on aseptic technique among nurses

A study conducted by Zeinab et al., (2021) on Nurses' Aseptic Technique Knowledge, Practice, and Compliance for Patients Receiving Hemodialysis. The study was conducted at the Assiut University Hospital in Egypt's hemodialysis unit. A convenience sample of 40 nurses which showed that only 55 percent of nurses follow the standard aseptic technique practice.

Adewunmi , (2020) conducted a study on knowledge and practice of aseptic technique among nurses in two hospitals in Lagos state Nigeria. A sample size of 129 was used by simple random technique in a two group pre-test and post-test quasi experimental design. Four study questions and six hypotheses were developed as a result of the data gathering method, which involved a self-structured questionnaire that had been pilot tested. This study showed that surgical nurses knowledge on aseptic technique was below average.

Ahmed et al., (2018) conducted a study on knowledge of aseptic technique among nurses in Pakistan in a tertiary care hospital. The number of nurses used was 200. Convenience sampling technique was used. Data were collected using a self-administered questionnaire that assessed the nurses' knowledge and practices of aseptic techniques. The questionnaire was validated by experts and had a reliability coefficient of 0.79. The findings of the study showed that 67% of nurses had a strong understanding of aseptic methods, whereas only 33% had a poor understanding. However, the majority of the nurses (95%) claimed to use aseptic practices in their work. The study also discovered that the nurses' understanding of aseptic procedures was strongly influenced by their educational background (p 0.05). The study suggested that regular education and training programs on aseptic procedures be made available.

Another study by Ademuyiwa et al, (2019) on the knowledge and practice of aseptic technique in a tertiary institution in Nigeria. A cross-sectional study was carried out, 200 nurses took part in the study; they were chosen by a straightforward random sampling method. A self-administered questionnaire that evaluated the nurses' aseptic technique knowledge and practices was used to gather data. The reliability coefficient of the questionnaire, which underwent expert validation, was 0.85. The findings of the study showed that 57.5% of nurses had high understanding of aseptic technique, compared to 42.5% who had less. Only 57.0% of the nurses, however, said they used aseptic methods in their work. The study also discovered that the nurses' aseptic technique knowledge and practices were strongly influenced ($p < 0.05$) by the number of years of experience they had. The study concluded that despite the fact that more than half of the nurses had a solid understanding of aseptic technique, their application was lacking. The study therefore recommended that nurses receive regular education and training in aseptic technique to enhance their practices.

2.2.2. Level of Adherence to Aseptic Technique Among Nurses

Adewunmi, (2020) conducted a study on knowledge and practice of aseptic technique among nurses in two hospitals in Lagos state Nigeria. A sample size of 129 was used by simple random technique in a two group pre-test and post-test quasi experimental design. Four study questions and six hypotheses were developed as a result of the data gathering method, which involved a self-structured questionnaire that had been pilot tested. This finding of this study showed that surgical nurse's level of adherence to aseptic technique was below average.

Another study was conducted by Zeinab et al., (2021) on Nurses' Aseptic Technique Knowledge, Practice, and Compliance for Patients Receiving Hemodialysis. The research design adopted was a descriptive one. Setting: The study was conducted at the Assiut University Hospital in Egypt's

hemodialysis unit. A convenience sample of 40 nurses was used. The findings of the study revealed that years of experience may affect how aseptic technique is used in the ward, according to data.

According to research by Amini et al. (2021), nurses with more experience in providing burn treatment were more knowledgeable about aseptic technique and more willing to employ it regularly. To emphasize the significance of aseptic technique and to make sure that all nurses, regardless of degree of experience, are adhering to best practices, the authors contend that continual education and training programs may be necessary.

Sheikhbardsiri et al. (2020) looked at the correlation between burn care nurses' experience and adherence to aseptic procedure in another study. The researchers discovered that nurses with more expertise adhered to aseptic technique more consistently than nurses with less experience. The authors do point out that this might partly be because more seasoned nurses tended to work in higher-level burn units with better resources and more assistance for infection control.

Overall, these studies indicate that aseptic technique use in the burn unit may be influenced by years of experience, but that continual education and training programs may be necessary to guarantee that all nurses are adhering to recommended practices and maintaining a sterile environment.

2.2.3 Availability of Tools and Resources for Aseptic Technique Practice

A study was conducted by Ijioma et al., 2023 on Evaluation of Healthcare Workers' Knowledge, Attitude and Practices of Aseptic Techniques in Primary Health Care Centres in Edo State, Nigeria. This study used a cross-sectional, descriptive research approach. For this study, 450 primary health care providers from particular Primary Health Centers (PHCs) in Edo State,

Nigeria, were enlisted. Utilizing a stratified random sample technique, participants were chosen to ensure representation from various facilities, professions, and geographic areas. Data were gathered using a self-administered, structured questionnaire. The findings of the study revealed that the majority of participants (90.25%) had experienced circumstances in which aseptic procedures could not be used because of a lack of supplies or equipment.

Also, another study was conducted by Tabe et al., (2019) on Challenges faced by nurses in implementing aseptic techniques at the surgical wards of the Bamenda Regional Hospital, Cameroon. A structured questionnaire was distributed to the nurses at the Bamenda Regional Hospital in order to conduct a cross-sectional study. The instrument used for data collection was a well-structured questionnaire designed according to the objectives. The findings of the study revealed that 80 percent of the nurses don't follow strict aseptic technique practices because of lack of supplies and equipment.

Proffitt et al, (2018), conducted a study on aseptic technique training and resources. The perioperative nurses in the United States were surveyed as part of this cross-sectional study utilizing a web-based survey. Data on the availability and efficacy of aseptic technique training and resources, including policies and procedures, tools, training, and feedback, were gathered through the survey. The study included 1,448 nurses in all. The findings of this study revealed that the majority of nurses (87.7%) indicated that they have access to aseptic technique policies and procedures. The study also discovered that hospitals' experiences with aseptic technique teaching and resources varied greatly, with some reporting more successful education than others. The study found that while the majority of perioperative nurses in the United States have access to aseptic technique policies and procedures, many do not receive regular aseptic technique training. To give perioperative nurses the tools they need to maintain aseptic technique during

surgery, the study recommended that hospitals to engage in frequent aseptic technique education and training.

2.3 Theoretical Review:

2.3.1 Theory of Planned Behavior (TPB)

A social psychological theory known as the theory of planned behavior (TPB) describes how people's attitudes, intentions, and perceived behavioral control affect their conduct. Icek Ajzen created the TPB as an expansion of his former theory, the theory of reasoned action, in the late 1980s. According to the TPB, a person's behavior is essentially determined by their purpose to carry out that activity. Three things have an impact on the intention:

The attitude of the person is how they perceive the behavior, whether positively or negatively. ideas about the activity, including ideas about the consequences of the behavior and beliefs about the social norms surrounding the behavior, have an impact on attitudes.

Subjective norms: This term relates to how an individual feels under societal pressure to engage in a behavior or refrain from doing so. Family, friends, or the general public may exert pressure on you.

The term "perceived behavioral control" refers to how the subject feels they can carry out the behavior. It considers both internal and external elements, including resources and environmental limits, as well as internal factors like skills and knowledge.

The TPB contends that an individual is more likely to carry out an action if their intention to do so is stronger. Health, environmental, and consumer behaviors are just a few of the many behaviors to which the TPB has been applied.

2.3.2 Application of this Model to Study:

A social cognitive theory called the Theory of Planned Behavior (TPB) describes human behavior in terms of three constructs: attitudes, subjective standards, and perceived behavioral control. These ideas are thought to affect a person's intention to engage in a certain behavior, which subsequently results in the behavior itself. TPB can be employed as follows in the context of evaluating factors influencing the practice of aseptic in a burns ward:

Whether a person views a behavior positively or negatively is referred to as their attitude. In this scenario, factors including prior experience, perceived benefits, and perceived hazards can affect one's attitude toward aseptic methods. For instance, a healthcare professional is more likely to have a favorable attitude toward aseptic procedures if they have had pleasant experiences with them in the past and think they can avoid infections.

Subjective norms: A person's feeling of social pressure to exhibit a behavior is referred to as a subjective norm. The expectations of patients and their families, as well as the attitudes of coworkers and managers, can all have an impact on the subjective norms in the setting of aseptic practices in a ward. For instance, a healthcare worker is more likely to feel social pressure to follow aseptic techniques if they believe that their coworkers and managers place a high value on these practices.

A person's perception of their ability to manage their behavior is referred to as perceived behavioral control. The perceived behavioral control in the context of aseptic procedures in a ward can be modified by elements including training, resources, and workload. For instance, a healthcare worker is more likely to have a high level of perceived behavioral control if they believe they have the knowledge and tools needed to carry out aseptic practices effectively.

Overall, by analyzing the attitudes, subjective norms, and perceived behavioural control of healthcare professionals, the TPB can be used to evaluate the elements that affect the practice of aseptic in a burns ward.

2.4 Summary of Literature Review

This chapter discussed conceptual review of aseptic technique (barriers,when to use aseptic technique, Types, Elements, Effects and prevention), Empirical review where similar studies were discussed alongside their results and theoretical review which described how people's attitudes, intentions, and perceived behavioural control affect their conduct of a septic technique.

CHAPTER THREE

METHODOLOGY

This chapter presents the procedures that will be adopted in carrying out this study. It includes the research design, research setting, target population, sample size, sampling technique, instrument for data collection, validity and reliability of the instrument, method of data collection, method of data analysis and ethical consideration.

3.1 Design:

A descriptive design was selected for this study. This method of research designs systematically collected the data by describing the phenomenon or situation. Apart from addressing the why questions, it also addresses the when, what, where and how in a research problem.

3.2 Settings:

The research was carried out at the University of Benin Teaching hospital. The University of Benin Teaching Hospital (UBTH) is a healthcare organization in Nigeria that offers a variety of specialties. The hospital was founded on May 12, 1973, at Ugbowo, Benin City, Nigeria.

It was founded as the sixth of Nigeria's first-generation teaching hospitals to support sister school University of Benin and offer care to the area, which is now known as the Mid-western Region and includes Edo and Delta State. It offers resources for the high- and middle-level workforce training for the healthcare sector.

3.3 Target Population

The target population comprises of nurses at the University of Benin Teaching hospitals ward. Such wards include burns ward, orthopedic ward, Operating room, labor ward, Renal ward and surgical ward. The total number of nurses are 125 nurses

Table 3.3

Names of ward	No of nurses
Burns	27
Othopedic	21
Operating room	15
Labour ward	19
Renal	20
Surgical	22
Total	125

3.4 Sampling Size:

Since the sample is small the researcher (me) adopted the entire population for the study.

Therefore, the sample was 125

3.5 Sampling Technique:

Sampling technique that was used for this study was purposive sampling technique (Total population sampling technique). This approach is focused on choosing respondents who are present at the exercise's time. Since the exercise is conducted by the researcher over the course of a month on several clinic days, everyone in the population has an equal chance of getting chosen.

3.5.1 Inclusion criteria: This includes all the nurses in Burns unit, labor ward maternal ward, renal ward, surgical ward and operating unit at University of Benin Teaching Hospital, Edo State, Benin City.

3.6 Instrument of Data Collection:

A self-made questionnaire was used to gather the data. This was organized in accordance with the study's goals. Four pieces made up the whole thing.

Section A had items that elicit data on the respondents' socio-demographic traits.

Section B had questions about aseptic technique knowledge using MCQ for the respondent to pick from

Section C had questions about level of adherence to aseptic technique using frequency Likert scale: Never, sometimes, often, always.

Section D asked respondents about resources availability using “Yes or No”

3.7 Validity of the Instrument

The instrument for data collection was scrutinized in order to ensure it is adequately constructed. This was achieved by submitting a copy to the project supervisor who will make necessary corrections and comments. This was used in updating the instrument before it was administered.

3.8 Reliability of Instrument:

The data gathering equipment has testing to determine its accuracy in measuring the goals for which it was intended. Pilot research helped to achieve this. Prior to the exercise, respondents who were not enrolled in the study but shared the sample characteristics with the respondents was given instrument about 10% of the sample size (University of Benin teaching hospital, Edo, Benin city). This was done in two successions within a time interval of one week. Data collected in these two exercises was analyzed

3.9 Method of Data Collection:

Direct administration of the instruments to respondents served as the method of data collection. After making an effort to explain the study's goal, participants who gave their permission was given a copy of the instrument to fill out. In order to reduce loss, attempts was undertaken to retrieve the instrument after completion.

3.10 Method of Data Analysis:

Data collected will analyzed using Statistical Package for Social Sciences (SPSS. 22.0). Research questions 1, 2 and 3 was analyzed using mean and standard deviation. On the other hand, research hypotheses were analyzed using Chi square statistics and tested at 0.05 level of significance.

3.11 Ethical Considerations:

Ethical considerations increase a study's success, ethical guidelines were adhered to when conducting the study. The following guidelines was followed in conducting this study: Plagiarism, informed consent written permission, confidentiality, and voluntary participation.

Written authorization and informed consent was requested from the University of Benin Teaching Hospital's research and ethics committee. This is done to make sure that the proper authorization is being given for the study to be conducted in a research setting. This made it easy to approach the people under study without restriction.

Anonymity/Confidentiality: The respondents' identities was concealed to safeguard and maintain the confidentiality of the respondents and their responses. As a result, the data collection tool did not include any information that could be used to identify the respondents personally. This assisted in gaining respondents' confidence, leading to honest and impartial responses.

Maintaining that participants in the study was not compelled or coerced to participate is important. Therefore, this study made sure that each respondent's agreement will be obtained before they will be chosen to participate in the study. The researcher also made sure that participants was not inconvenienced while participating in the experiment.

Plagiarism: The researcher made a point to not use anyone else's ideas or words when planning this study. However, in reference to earlier, related works was made and proper referencing observed and words well paraphrased.

CHAPTER FOUR

DATA ANALYSIS, TESTING OF HYPOTHESIS AND ANSWERING OF RESEARCH QUESTIONS

The data analysis, hypothesis testing and answering of the research questions were done in this chapter using responses obtained from the questionnaires administered to nurses working in selected wards at the University of Benin Teaching Hospital, Benin City, Edo State. A total of 125 questionnaires distributed to the respondents were duly filled and returned, this is 100% response rate.

4.1 Data Analysis

This data analysis is presented in this section such that the demographic variables were presented first before the research objectives were looked into, followed by the hypothesis testing.

4.1.1 Demography of Respondents

The demographic variables that pertained to this study and which the questionnaires assessed were age, level of education, marital status and years of experience. Table 4.1 show the demographic distribution of the respondents with respect to the afore-listed demographic variables.

Table 4.1: Demographic Information of Respondents**n=125**

S/ N	Variables	Attributes	Frequeny	Percent (%)
	Age	18-22 years	01	0.8
		23-27 years	23	18.4
		28-32 years	43	34.4
		33 years and above	58	46.4
		RN	15	12.0
2	Academic Qualification	RN & RM	35	28.0
		BNsc	40	32.0
		M.Nsc	25	20.0
		Phd	10	8.0
		Single	30	24.0
4	Marital Status	Married	70	56.0
		Divorced	15	12.0
		Widowed	10	8.0
		1 – 5 years	25	20.0
5	Years of practice	6 – 10 years	50	40.0
		11-15 years	30	24.0
		16-20 years	10	8.0
		20 years and above	10	8.0

Table 4.1 showed that 01 (0.8%) are between 18 and 22 years old, 23 (18.4%) are between 23 and 27 years old, 43 (34.4%) are between 28 and 32 years old while 58 (46.4%) of the respondents are 33 years and above. In terms of academic qualification, 15 (12%) of the respondents had RN, 35 (28%) had RN & RM, 40 (32%) had BNsc, 25 (20%) had M.NSc while 10(8%) had Phd. The marital status of the respondents showed that 30(24%) of the respondents are single, 70 (56%) are married while 15 (12%) are divorced and 10(8%) are widowed. The distribution of the respondents in terms of years of practice showed that 25 (20%) have practiced for 1-5 years, 50 (40%) have practiced for 6-10 years, 30(24%) have practiced for 11-15 years, 10(8%) have practiced for 16-20 years while 10 (8%) have practiced for 20 years and above.

Table 4.2: Aseptic Technique Knowledge Among Nurses:**n=125**

	Wrong	Correct
What is the purpose of aseptic technique?	16(12.8)	109(87.2)
Which of the following is an example of aseptic technique?	19(15.2)	106(84.8)
What is the most important step in aseptic technique?	103(82.4)	22(17.6)
Which of the following is NOT a common mistake in aseptic technique?	56(44.8)	69(55.2)
How should you handle an open wound while working in the lab?	74(59.2)	51(40.8)
What should you do if you accidentally touch a non-sterile surface while working with sterile materials?	32(25.6)	93(74.4)
Which of the following is a recommended practice for working with microorganisms?	123(98.4)	2(1.6)
How should you dispose of used materials contaminated with microorganisms?	47(37.6)	78(62.4)
What is the purpose of the laminar flow hood?	87(69.6)	38(30.4)
MEAN	62(49.6%)	63(50.4%)
))

Table 4.2 shows aseptic technique knowledge among nurses. What is the purpose of aseptic technique? 109(87.2%) respondents gave the right answer which was “To prevent contamination of sterile materials.” Which of the following is an example of aseptic technique was correctly responded to by 106(84.8%) which was “Using a flame to sterilize a loop before inoculating a culture”. What is the most important step in aseptic technique? 22(17.6%) responded with the correct answer which was “Using a flame to sterilize a loop before inoculating a culture.” Which of the following is NOT a common mistake in aseptic technique was correctly responded to by 69(55.2%) which was “Using a flame to sterilize gloves.” How should you handle an open wound while working in the lab? The correct answer was “Cover the wound with a bandage and wear gloves” which was responded by 51(40.8%). What should you do if you accidentally touch a non-sterile surface while working with sterile materials was correctly responded to by 93(74.4%) correctly. Which of the following is a recommended practice for working with microorganisms was correctly responded to by 2(1.6%) which the expected answer was “Place

them in a biohazard waste container.” How should you dispose of used materials contaminated with microorganisms was correctly responded to by 78(62.4%) which the expected answer was “ provide a sterile environment for working with microorganisms.”

The mean percentage of correctly answered items by the respondents as computed in table 4.2 was 62 (49.6%) and that of incorrectly answered questions was found to be 63 (50.4%). Comparing the mean percentages with the McDonald’s standard of learning outcome measure criteria:

n=125

Level of Knowledge	composite of scores (%)
Very low	< 60%
Low	60 – 69.99%
Moderate	70 – 79.99%
High	80 – 89.99%
Very high	90 – 100%

Therefore the result, 50.4% of the respondents exhibiting correct knowledge of aseptic technique in comparison with the McDonald’s scale indicates a very low level of knowledge regarding aseptic technique. Therefore, the respondents can be said to have a low level knowledge of aseptic technique.

Table 4.3: Adherence to Aseptic Technique**n=125**

	Never	Sometimes	Often	Always
I touch other fields during sterile procedures	108(86.4)	15(12.0)	1(0.8)	1(0.8)
I wash my hands before and after touching patients	2(1.6)	0(0.0)	4(3.2)	119(95.2)
I dispose sharps and other medical waste after use.	0(0.0)	2(1.6)	0(0.0)	123(98.4)
I wear protective gloves before touching fluids	0(0.0)	3(2.4)	1(0.8)	121(96.8)
I wear sterile gloves when dressing wound	0(0.0)	3(2.4)	0(0.0)	122(97.6)
I use other PPE when necessary like gowns and face mask	0(0.0)	3(2.4)	1(0.8)	121(96.8)
I always use sterile packs for procedures like wound dressing and vulva swabbing	0(0.0)	2(1.6)	1(0.8)	122(97.6)

Table 4.3 shows respondents adherence to aseptic technique. It was reported by majority 108(86.4%) that they never touch other fields during sterile procedures. It was reported by majority 119(95.2%) reported they always wash their hands before and after touching patients. It was reported by majority 123(98.4%) that they always dispose sharps and other medical waste after use. It was reported by majority 121(96.8%) that they always wore protective gloves before touching fluids. It was reported by majority 122(97.6%) that they always wore sterile gloves when dressing wound. It was reported by majority 121(96.8%) that they always used other PPE when necessary like gowns and face mask. It was reported by majority 122(97.6%) that they always used sterile packs for procedures like wound dressing and vulva swabbing.

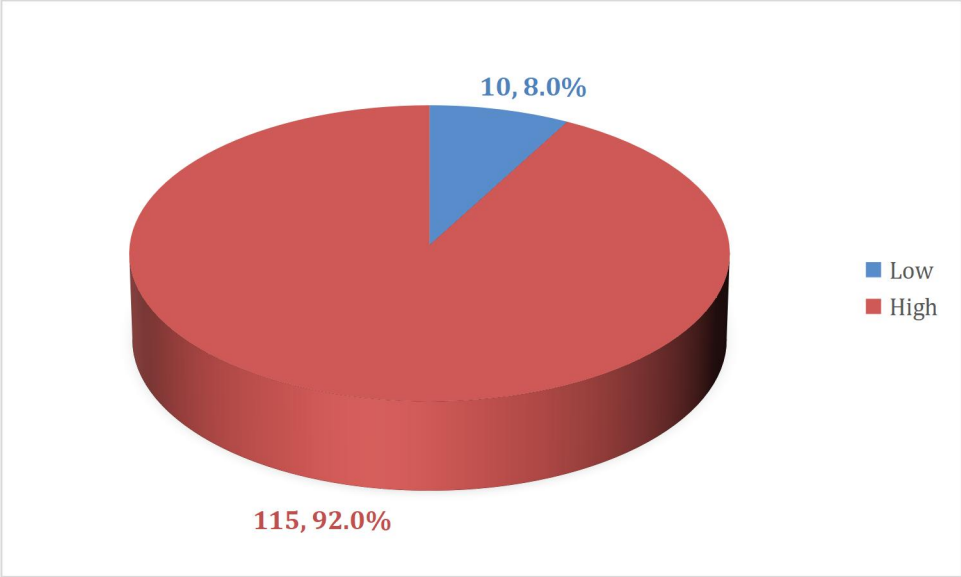


Figure 4.1: Level of Adherence to aseptic technique

Figure 4.1 gives a summary of respondents level of adherence to aseptic technique, majority 92% had a high level of adherence while the remaining 8% had a poor level of adherence.

Table 4.4: Adequacy of Tools and Resources Required to Practice Aseptic Technique

	Yes	No
Do you have access to the necessary personal protective equipment (PPE) for aseptic technique, such as gloves, gowns, masks, and face shields	120(97.6)	3(2.4)
Are there designated areas or rooms for performing sterile procedures, such as wound care or catheter insertion?	13(10.6)	110(89.4)
Do you have access to sterile supplies, such as sterile gloves, drapes, and gauze, for sterile procedures?	117(95.1)	6(4.9)
Is there a protocol or policy in place for handling and disposing of contaminated materials, such as used needles or dressings?	23(18.7)	100(81.3)
Have you experienced any challenges in obtaining or accessing the necessary tools and resources for aseptic technique	44(35.8)	79(64.2)

Table 4.4 shows adequacy of tools and resources required to practice aseptic technique. It was reported by 120(97.6%) that they have access to the necessary personal protective equipment (PPE) for aseptic technique, such as gloves, gowns, masks, and face shields. It was reported by 13(10.6%) that there are designated areas or rooms for performing sterile procedures, such as wound care or catheter insertion. It was reported by 117(95.1%) that they have access to sterile supplies, such as sterile gloves, drapes, and gauze, for sterile procedures. It was reported by 23(18.7%) that there is a protocol or policy in place for handling and disposing of contaminated materials, such as used needles or dressings. It was reported by 44(35.8%) that they have experienced challenges in obtaining or accessing the necessary tools and resources for aseptic technique.

Research Hypothesis

There is no significant relationship between years of experience and adherence to aseptic technique among nurses in selected wards in university of Benin teaching hospital (UBTH).

Table 4.5: Relationship between years of experience and adherence to aseptic technique among nurses in selected wards in University of Benin Teaching Hospital (UBTH).

	Level of adherence		χ^2	p
	Low	High		
Years of experience				
0-2	0(0.0)	23(100.0)	4.007	0.135
3 – 4	3(6.3)	45(93.8)		
5 and above	7(13.0)	47(87.0)		

Table 4.5: Relationship between years of experience and adherence to aseptic technique among nurses in selected wards in university of Benin teaching hospital (UBTH). Since the calculated p value is greater than the critical p value then we reject the null hypothesis. Therefore it shows that there is a significant association between years of experience and adherence to aseptic techniques among nurses in selected wards in UBTH.

1. There is no significant relationship between age and knowledge about aseptic technique among nurses in university of Benin teaching hospital (UBTH).

Table 4.6: Relationship between age and level of knowledge about aseptic technique among nurses in selected wards in University of Benin Teaching Hospital (UBTH).

	Level of Knowledge		χ^2	p
	Low	High		
Age				
18-20 years	0(0.0)	23(100.0)	4.007	0.135
21-27 years	1(6.3)	45(93.8)		
28-32 years	12(27.9%)	31(72.1%)		
33 years and above	7(13.0)	47(87.0)		

Table 4.6: Relationship between age and level of knowledge about aseptic technique among nurses in selected wards in University of Benin Teaching Hospital (UBTH). Since the calculated p value is greater than the critical p value then we reject the null hypothesis. Therefore it shows that there is a significant association between age and level of knowledge about aseptic techniques among nurses in selected wards in UBTH

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter provides the discussion of findings in accordance to the stated objectives and hypothesis, implications for nursing, summary, conclusion, recommendation and suggestion for further studies.

5.1 Discussion of Findings

Aseptic technique knowledge among nurses

Findings of this study shows that majority of the respondents had fair level of knowledge, less than half had poor level of knowledge while less than one third had good level of knowledge. This is in contrast to the findings of a study carried out by Ahmed et al, 2018 in Pakistan where majority of the respondents had a strong understanding of aseptic methods and another study done by Ademuyiwa et al, 2019 in Nigeria which found that had a little over half of the respondents had high understanding of aseptic technique.

Another study by zeinab et al, 2021 showed that the nurses had fair knowledge of aseptic technique. This is similar with this study which showed that respondents had fair knowledge of aseptic technique. A study by adewunmi 2020 , showed that nurses knowledge on aseptic technique was below average which is similar with this study.

The fair level of knowledge of aseptic technique among nurses in the present study may be as a result of may be as a result of a difference in the sociodemographic characteristics of respondents and study area. Fair knowledge of aseptic techniques among respondents to this study suggests that nurses require more training in aseptic techniques.

Adherence to aseptic technique

In this study, it was found that majority respondents had a high level of adherence while less than one third had a poor level of adherence. This is in contrast with findings of a study conducted by adewunmi et al, 2020 in Nigeria which reported that nurses level of adherence to aseptic technique was below average.

Another study conducted by zeinab et al,2021 which showed that only 55 percent of nurses have high adherence to aseptic technique practice which is also in contrast with this study.

Amimi et al. (2021), reported that nurses with more experience in providing burn treatment were more knowledgeable about aseptic technique and more willing to employ it regularly. The high level of adherence to aseptic techniques recorded in this study may be because the study was conducted in a tertiary health facility where safety is taken seriously. This will help to reduce the burden of care on health care workers.

Adequacy of tools and resources required to practice aseptic technique

In this study, majority of the respondents reported that that they have access to the necessary personal protective equipment for aseptic technique, such as gloves, gowns, masks, and face shields, and they have access to sterile supplies, such as sterile gloves, drapes, and gauze, for sterile procedures while less than one third of them reported that by that there are designated areas or rooms for performing sterile procedures, such as wound care or catheter insertion, there is a protocol or policy in place for handling and disposing of contaminated materials, such as used needles or dressings and they have experienced challenges in obtaining or accessing the necessary tools and resources for aseptic technique. This is in contrast with the study conducted by Tabe et al., (2019) and ijioma et al, 2023 which showed that majority of the respondent lack supplies and equipment necessary to carry out aseptic technique practice

Proffitt et al, (2018), found that in the U.S, majority of the nurses indicated that they have access to aseptic technique policies and procedures with over half of respondents said they had access to regular aseptic technique training. The findings of this study suggest that although remarkable work to ensure adequacy of tools and resources required to practice aseptic techniques have been done, more measures still need to be put in place.

5.2 Implication to Nursing

1. Evidence from this study could guide nurses to update their knowledge of aseptic techniques.
2. Nurses could help tackle barriers to adherence to aseptic techniques.

5.3 Limitation of the study

1. Convenience sampling technique utilized in this study may prevent the findings of the study from being generalizable.

5.4 Summary

This study seeks to assess the factors affecting the practice of aseptic technique among nurses in labor ward, orthopedic ward, renal ward, burns ward, operating room and surgical ward in university of Benin teaching hospital. The study was outlined into five chapters. Chapter one of this study dealt with the introduction of the topic, statement of problem, objectives of the study, research questions, hypotheses and scope of study, the significance of the study and operational definition of terms. Relevant literature were reviewed in chapter two on the subject under discourse, theoretical framework and empirical review of related studies were also discussed in this chapter. Chapter three dealt with research methodology which adopted the descriptive survey research design and convenient sampling method was used to select one hundred and

twenty five nursing staff in UBTH. A well-structured questionnaire was used as instruments of data collection. Analysis and interpretation of data were discussed in chapter four, tables with percentage and means represented information as well as bar charts. The result from the study shows that majority of the respondents had fair level of knowledge, less than half had poor level of knowledge while less than one third had good level of knowledge.

5.5 CONCLUSION

This study assessed the factors affecting the practice of aseptic technique among nurses in labor ward, orthopedic ward, renal ward, burns ward, operating room and surgical ward in university of Benin teaching hospital. The result shows that majority of the respondents had fair level of knowledge, less than half had poor level of knowledge while less than one third had good level of knowledge. The study however also identified that there is no significant association between years of experience and adherence to aseptic techniques among nurses in selected wards in UBTH.

5.6 RECOMMENDATIONS

1. There should be constant training and retraining of nursing staff on aseptic techniques.
2. All aseptic tools and resources should be made available to nursing staff.

5.7 SUGGESTIONS FOR FUTURE STUDIES

1. A comparative study can be conducted among Nurses from other health facilities asides those in UBTH.

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APPENDIX
DEPARTMENT OF NURSING SCIENCE
SCHOOL OF BASIC MEDICAL SCIENCES
COLLEGE OF MEDICAL SCIENCES
UNIVERSITY OF BENIN,
BENIN CITY, EDO STATE

Dear Respondents.

I, MOSES JULIET OKE am currently carrying out a study on Assessment of factors affecting the practice of aseptic technique in selected wards among nurses in a university of Benin teaching hospital. Please, assist in completing this questionnaire in order for me to gather information for the study. Your responses will be treated with utmost confidentiality and used only for the purpose mentioned above. Thanks

Signature

Section A: Socio Demographic Information

1. Age: 18-22 years (), 23-27 years (), 28-32 years (), 33 years and above ()
2. Educational Qualification: RN (), RN & RM (), BNsc () M.Nsc () Phd ()
3. Occupation: Civil servant (), Self-employed/ Artisans (), Business (), Others ()
4. Religion: Christianity (), Islam (), African Traditional Religion (), Others ()
5. No of Children: 0-2 (), 3-5, (), Above 5 (),
6. Average Monthly Income/Allowance: Less than N20,000 (), N21 – N50,000 (), N51 – N100,000 (), Above N100,000 ()

Section B : Level of aseptic technique knowledge among nurses:

1. What is the purpose of aseptic technique? A. To prevent contamination of sterile materials() B. To reduce the number of microorganisms on surfaces () C. To sterilize all surfaces in the laboratory () D. To promote the growth of microorganisms in a controlled environment ()
2. Which of the following is an example of aseptic technique? A. Using a flame to sterilize a loop before inoculating a culture () B. Wiping down surfaces with a damp cloth () C. Covering a petri dish with a paper towel D. All of the above ()

3. What is the most important step in aseptic technique? A. Wearing a lab coat and gloves () B. Using sterile equipment () C. Disinfecting surfaces before and after use () D. Washing hands before and after working with microorganisms ()

4. Which of the following is NOT a common mistake in aseptic technique? A. Touching non-sterile surfaces with sterile gloves () B. Opening sterile packages with dirty hands () C. Working too quickly and sloppily () D. Using a flame to sterilize gloves ()

5. How should you handle an open wound while working in the lab? A. Cover the wound with a bandage and wear gloves () B. Avoid working with microorganisms until the wound is healed () C. Wear a protective gown to cover the wound () D. All of the above ()

6. What should you do if you accidentally touch a non-sterile surface while working with sterile materials? A. Continue working as usual () B. Stop working and start over with new materials () C. Disinfect the contaminated surface before continuing () D. Ignore the mistake and hope for the best ()

7. Which of the following is a recommended practice for working with microorganisms? A. Keeping the lab door open to promote air flow () B. Eating and drinking while working with microorganisms () C. Washing hands frequently and thoroughly () D. Allowing unauthorized individuals to enter the lab ()

8. How should you dispose of used materials contaminated with microorganisms? A. Throw them in the regular trash () B. Burn them in an incinerator () C. Autoclave them to sterilize them () D. Place them in a biohazard waste container ()

9. What is the purpose of the laminar flow hood? A. To sterilize equipment before use () B. To provide a sterile environment for working with microorganisms () C. To provide a safe environment for handling hazardous chemicals () D. To filter air before it enters the lab ()

Section C: Level of adherence to aseptic technique

S/N	Questions	Never	Sometimes	Often	Always
1	I touch other fields during sterile procedures				
2	I wash my hands before and after touching patients				
3	I dispose sharps and other medical waste after use.				

4	I wear protective gloves before touching fluids				
5	I wear sterile gloves when dressing wound				
6	I use other PPE when necessary like gowns and face mask				
7	I always use sterile packs for procedures like wound dressing and vulva swabbing				

Section D: To determine whether the tools and resources required to practice aseptic technique among nurses are adequate

1. Do you have access to the necessary personal protective equipment (PPE) for aseptic technique, such as gloves, gowns, masks, and face shields? A. Yes [] B. No. []
2. Are there designated areas or rooms for performing sterile procedures, such as wound care or catheter insertion? Yes[] B. No. []
3. Do you have access to sterile supplies, such as sterile gloves, drapes, and gauze, for sterile procedures? A. Yes[] B. No. []
4. Is there a protocol or policy in place for handling and disposing of contaminated materials, such as used needles or dressings? A. Yes[] B. No. []
5. Have you experienced any challenges in obtaining or accessing the necessary tools and resources for aseptic technique A. Yes[] B. No []