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**Assessment of Forensic Nursing Knowledge Among Fourth Year
Nursing College Students in West Bank, Palestine**

Iyad Mohammad Yousef Alsweiti

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College Students in West Bank, Palestine**

Prepared By :

Iyad Mohammad Yousef Alsweiti , MSN.

Bachelor Degree of Nursing from Bethlehem University

Supervisor :

Dr. FaridGhrayeb

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Al-Quds University

School of Nursing



Thesis Approval

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Prepared by: Iyad Mohammad Yousef Alsweiti

Registration No: 21410094

Supervisor: Dr. Farid Ghrayeb

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The names and signatures of the examining committee members are as follows:

1. Head of Committee: Dr. Farid Ghrayeb Signature: -----

2. Internal examiner: Dr. Sumya Sayej Signature: -----

3. External examiner: Dr. Amal Abu Awad Signature: -----

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DEDICATION

I dedicate this thesis to Minister of Justice Ali Abu Diakand to the Deputy of Minister Mr. Mohammad Abu Sondos also to Mr. YusriElawithe director of forensic medicine who contributed to the development of this new specialty through their creation of expanded clinical roles, research and scholarly publications. Despite the struggles in the early years, when forensic nursing was not a recognized area, they embraced the privilege and responsibility of creating a new specialty field of clinical practice and scholarly study. Now, as awareness of the unique specialty area of forensic nursing has heightened and the demand for further forensic educational programs has increased, studies like this will help to record their endeavors in the history of the forensic nursing specialty.

الاهداء

أهدي هذه الرسالة إلى وزير العدل المستشار علي أبوديالك، ولعطوفة وكيل وزارة العدل الأستاذ محمد ابو سندس، وللاستاذ يسريعليو مدير الطب الشرعي الذين ساهموا في تطوير هذا التخصص الجديد من خلال دعمهم للأدوار السريرية الموسعة والبحوث والمنشورات العلمية. وعلى الرغم من الصراعات في السنوات الأولى، عندما كان التمريض الشرعي غير معروف، إلا أنهم احتضنوا بامتياز ومسؤولية خلق مجال تخصص جديد من الممارسة السريرية والدراسة العلمية. والآن وبعد زيادة الوعي في تخصص التمريض الشرعي زاد الطلب على المزيد من البرامج التعليمية للطب الشرعي، ومثل هذه الدراسة سوف تساهم في تسجيل مساعيهم في تاريخ تخصص التمريض الشرعي.

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Most of all, my sincere appreciation goes to the research participants in this study. My thanks to all who shared their insights so freely, who took time from their busy schedules to assist me, without whom this study would not have been possible.

Declaration

I certify that this thesis submitted for the Master Degree is the result of my own research, except where otherwise acknowledged, and that this thesis or any part of the same material has not been submitted for a higher degree to any other university or institution.

Signed: 

Iyad Mohammad Yousef Alsweiti

Date:

Abstract

The term “forensic” or “medico-legal” was defined as health care situations or conditions that may have legal implications (Virginia A. Lynch, 2011). Depending on the nature of the medical situation, healthcare providers may intersect with the law (Freedberg, 2008) Forensic nursing is an emerging nursing specialty recognized by the American Nursing Association. However, nurses often do not have the basic knowledge to provide the appropriate level of forensic care. Forensic Nursing is a specialty that is still new and needs to continue development to encompass forensic courses in the nursing curriculum so nurses can provide the appropriate responses in trauma cases, provide a more holistic care to their clients, and advocate in an unbiased and scientifically objective manner. The aim of this study was to assess the level of knowledge of forensic nursing among 4th year nursing students and to determine if differences in knowledge existed between nursing students according to socio demographic data . Subjects of the study were 108 nursing students from Al-Quds University 50 (46.3%), Bethlehem University 30 (27.8%), Hebron University 28 (25.9%),

After data collection and analysis done, a variation was found among the study in relation to gender , place of residence , university ,and education major, comparison of the mean differences between variables was done concerning the level of knowledge of forensic nursing among 4th year nursing students. The majority of the subjects, aged range 20-23, were 76.8% and the total number of female respondents 68.8% . The level of forensic knowledge among all nursing students in the three universities were 40.7 % . For Alquds university the level of knowledge in forensic nursing was 36.72%. For Bethlehem university the level of knowledge in forensic nursing was weak 46.2% . For Hebron university the level of knowledge in forensic nursing was weak 42.1% .For gender analysis through t-test ,there was a statistical significance difference because the significance level is 0.005 which was below than 0.05 .For the university

the significance score is 0.004 so the score is below the alpha value of 0.05. Therefore there is statistically significant difference between mean score of students from each University.

Thus the researcher concluded that the forensic knowledge of students were very poor in all the three universities and the universities needs to improve their education system to improve the overall knowledge and this knowledge in Al-Quds is further diminishing. From the results of this study, the researcher was able to conclude that the respondents' fourth year nursing students had not identified the importance of forensic role behaviors towards their role in the hospitals, because they are lack of knowledge, information and training of how to deal with forensic cases. In the light of analysis of the results, the researcher suggested some recommendations . It would be interesting to conduct a study that includes the qualitative aspect to identify changes needed in nursing education. Another recommendation is to review and make innovations and improvements in the nursing programs curricula and education system capacity to emphasize high quality patient centered care, and evidence based-care.

تقييم المعرفة حول التمريض الشرعي بين طلاب كليات التمريض السنة الرابعة بالضفة الغربية في فلسطين .

إعداد : اياد محمد يوسف السويطي

إشراف : الدكتور فريد غريب

الملخص

تعريف "الطب الشرعي" أو "الطب العدلي"، هو حالات الرعاية الصحية أو الظروف الطبية التي قد تكون لها آثار قانونية تبعاً لطبيعة الحالة الطبية، حيث إن الأعمال الطبية التي تقدم بواسطة موظفي الرعاية الصحية تتقاطع مع القانون. التمريض الشرعي هو تخصص التمريض القضائي الذي يربط بين علوم التمريض والقضاء والمعرف به من قبل جمعية التمريض الأميركية. ومع بزوغ هذا التخصص الجديد، فإن الممرضين والممرضات في كثير من الأحيان لم يكن لديهم المعرفة الأساسية والضرورية لتوفير المستوى المناسب من الرعاية التمريضية الشرعية للحالات الطبية القضائية. التمريض الشرعي هو التخصص الذي لا يزال جديداً ويجب أن يستمر تطوره و إدراج مساق التمريض الشرعي في مناهج التمريض لأن الممرضين والممرضات يمكن أن يوفرُوا الحلول المناسبة في حالات الصدمات النفسية، وتوفير المزيد من الرعاية الشاملة للمرضى غير المنحازة والموضوعية وبطريقة علمية. كان الهدف من هذه الدراسة هو تقييم مستوى المعرفة بالتمريض الشرعي بين طلاب التمريض السنة الرابعة ولتحديد ما إذا كانت الاختلافات في المعرفة موجودة بين طلاب التمريض وفقاً لبيانات الديموغرافية الاجتماعية. وكانت عينة الدراسة 108 من طلاب التمريض، في جامعة القدس 50 (46.3%)، وجامعة بيت لحم 30 (27.8%)، وجامعة الخليل 28 (25.9%).

تم القيام بعملية جمع البيانات وتحليلها، حيث تبين من تحليل المعطيات وجود اختلاف بين طلاب التمريض بالنسبة لمستوى معرفته بالتمريض الشرعي على أساس نوع الجنس، ومكان الإقامة، والجامعة، وقد تم مقارنة الفروق بين المتغيرات فيما يتعلق بمستوى المعرفة بالتمريض الشرعي بين طلاب التمريض في السنة الرابعة، وكانت غالبية الطلاب الذين شملتهم العينة أعمارهم تتراوح بين 20-23 سنة أي بنسبة 76.8% من إجمالي أعمار الطلاب، وإجمالي عدد الإناث اللواتي شاركن 68.8%. وكان مستوى المعرفة بالتمريض الشرعي بين جميع طلاب التمريض في الجامعات الثلاث 40.7% وهي نسبة ضعيفة، أي في جامعة القدس كان مستوى المعرفة في مجال التمريض الشرعي 36.72%، وفي جامعة بيت لحم كان مستوى المعرفة في مجال التمريض الشرعي 46.2%، وفي جامعة الخليل كان مستوى المعرفة في مجال التمريض الطب الشرعي 42.1%. لتحليل النوع الاجتماعي وعلاقته بالمستوى المعرفي بالتمريض الشرعي من خلال اختبار (t الاحصائي)، حيث تبين أن هناك فرق ذا دلالة إحصائية لمستوى الدلالة هو 0.005 والذي كان أدنى من $p=0.05$. وإيضاً من خلال تحليل الجامعة التي يدرس بها الطلبة وعلاقتها بالمستوى المعرفي بالتمريض الشرعي من خلال اختبار t-test

حيث تبين ان مستوى الدلالة هو 0.004 وبالتالي فإن النتيجة هي أقل من قيمة ألفا 0.05. ولذلك هناك فروق ذات دلالة إحصائية بالنسبة للجامعة التي يتعلم فيها الطلاب ومستوى المعرفة بالتمريض الشرعي .

وهكذا استنتج الباحث أن المعرفة بالتمريض الشرعي بين الطلاب كانت سيئة للغاية في جميع الجامعات الثلاث ، والجامعات بحاجة إلى تحسين نظام التعليم لتحسين المعرفة العامة ، وهي المعرفة الأدنى في جامعة القدس من حيث مستوى الطلاب في الجامعات الثلاثة. من نتائج هذه الدراسة، كان الباحث قادرا على الاستنتاج أن طلاب التمريض السنة الرابعة والذين كانوا ضمن العينة لم يحددوا أهمية السلوكيات ودور التمريض الشرعي في المستشفيات، لأن هناك نقص في المعرفة والمعلومات والتدريب على كيفية التعامل مع حالات التمريض الشرعي.

في ضوء تحليل النتائج، اقترح الباحث بعض التوصيات ، حيث سيكون من المثير للاهتمام إجراء دراسة تشمل الجانب النوعي لتحديد التغييرات اللازمة في تعليم التمريض. وتوصية أخرى هي لاستعراض وتقديم الابتكارات والتحسينات في مناهج برامج التمريض ونظام التعليم والقدرة على تحسين المناهج والحصول على جودة عالية من العناية محورها الرعاية، والرعاية القائمة على الأدلة والمحافظة على حقوق المريض.

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CHAPTER ONE

Introduction

The term *forensic* has recently appeared as the prefix to many professional disciplines as a focus area of clinical practice and educational development. Forensic nursing, a specialty of nursing, is one of the new specialty or focus areas that has appeared in the last 30 years. Forensic nursing has many subspecialties that deal with the legal aspects of caring for patients who are either victims, offenders, living or deceased (Burke Johnson, L. B. 2004).

Forensic Nursing is a specialty that is still new and needs to continue developing, so forensic nurses can provide the appropriate responses in trauma cases, provide a more holistic care to their clients, and advocate in an unbiased and scientifically objective manner (Burke Johnson, L. B. 2004). According to Pyrek (2006) traditionally emergency nurses have been the first to come in contact with clients involved in trauma cases, and they are trained in the legal complexities of trauma cases and may not consult with the hospital legal team when such cases are presented before providing the necessary interventions for the client needs resulting in loss of critical evidence .

The main area of research of this study was to assess the level of forensic nursing knowledge among the fourth year nursing students in three universities (Al-Quds, Bethlehem and Hebron Universities). In order to dwell into the assessment of students with relation to their knowledge there is a need to understand the profession itself. There have been various definitions of the forensic profession itself, out of which the one by the International Association of Forensic Nurses IAFN (2013) comes close to defining the profession in a wholesome way. According to this definition, a forensic nurse is essentially a

professional who works as a connecting link with the legal system of justice as well as the medical profession that supports various practice roles (e.g. sexual assault nurse, nurse death investigator, correctional/psychiatric nurse) each of which requires advanced study . The profession is vast and diverse, with various differences being observed in the way the profession is practiced across cultures, countries and other geographic and societal structures. Practicing nurses often encounter situations that require knowledge of medico-legal aspect of patient care. However, basic nursing education usually does not include the knowledge nurses need to care for forensic patients (e.g. patients admitted due to non-natural situations of abuse, assault, accident, or death). Studies have shown health care providers acknowledge they are often ill prepared to identify and accurately describe injuries or recognize tangible forensic evidence (Caliskan&Ozden ,2012; Kent-Wilkinson,2011). Freedberg, (2008) suggested including introductory forensic nursing science concepts and skills into undergraduate nursing education would better prepare nurses to identify and respond to situations dealing with forensic patients and their familieis.

This study will be essentially looking into the knowledge of fourth year nursing students regarding forensic nursing in three universities (Al-Quds, Bethlehem and Hebron Universities) and their ability to cope up with forensic cases regardless the absence of forensic courses in their curriculum.

Context of the Study

The recognition of forensic nurses specialty status by the American Nurses Association (ANA) in 1995 required the specialty define and explicate its major conceptual base in terms of definitions scope and standard of practice (American Nurse's Association, 1995).Among the specialties in the health professions in the last thirty years, forensic nursing emerged as one of the most dynamic and fastest growing specialties in today's

knowledge society (Coram, J. 1993). Nursing students inquired how they become forensic nurses, and how they could acquire forensic nursing education. While forensic nursing courses and programs rapidly appeared in curriculums in many leading colleges and universities, forensic nurse educators also had questions as they develop and taught, often in isolation, some of the first forensic nursing courses. "What content should be included in each course of program of study?"

Statement of the Problem

The basic problem that is addressed in this particular paper would be related to the overall background of the profession. Essentially, forensic nursing as a profession is in its developmental phase and is therefore rampant with tensions and issues related to role definitions as well as issues related to complexity of work, such as the intricate technical details of the profession.

One of the most important aspects that make the assessment of the knowledge of forensic nurses in their field is the fact that there are a large percentage of practicing nurses who have been unprepared, both theoretically and practically, to accurately identify and understand forensic evidence and deal with injuries and mental disorders (Caliskan & Ozden, 2012). This could result in some very drastic complications on the field, especially as it usually involves emergency situations, which require critical as well as analytical knowledge of the subject as a whole. This is one of the major problems that have to be considered while looking into the aspect of assessing the overall knowledge of students in the field of forensic nursing. Without ensuring that the students are equipped thoroughly with adequate knowledge and understanding of the subject, including a good presence of mind on the field so that they are in control of extremely urgent cases which could be considerably overwhelming for the unprepared individual. Unfortunately, the schools of

nursing in Palestine do not offer a forensic nursing course for senior baccalaureate and master level of Nursing & Midwifery students. Accordingly, the researcher recognized a need to carry out this study to determine the knowledge levels of the 4th year nursing and midwifery students at Palestinian Universities in southern of Palestine.

Rational of the Study

- ❖ This study intend to investigate one of the major emerging nursing specialty in the 21st Century, namely, Forensic nursing.
- ❖ Knowledge gained from this study will be useful in the development of forensic nursing curricula or integrating forensic courses within the available curriculum .
- ❖ To fill a research gap as little studies are available that will describe level of knowledge of forensic nursing among nursing college students.

Significance of the Study

Many universities are implementing specialized programs and are developing an educational niche for themselves by focusing on specific areas of study (Portugal, 2006). Alqudsuniversity is one of those universities that interested in contemplating the development of future forensic educational programs in various discipline and may benefit from the information gathered in this quantitative study to include forensic nursing in the nursing curriculum. This study may serve not only increase student knowledge but to advance the specialty of forensic nursing that may challenge nurses to articulate clearly the theoretical foundations of forensic nursing. Without the basic knowledge of how to assess, interpret, and document abuse or neglect, recognize sudden, unexpected, or non-natural death, or how to safely and legally intervene, healthcare facilities nurses are at risk for legal repercussions and financial and professional sanctions .

Goal of the Study

The purpose of the study is to assess forensic nursing knowledge among fourth year nursing students in three universities (Al-Quds, Bethlehem, and Hebron Universities) which may affect their competence level when dealing with forensic cases (e.g. sexual assault , child abuse , murder ,paternity dispute) .

To achieve this goal the following objectives are set :

1. To assess the level of knowledge of forensic nursing among fourth year students enrolled at Al Quds University, Bethlehem University, and Hebron University, during the academic year 2015/2016, in Palestine .
2. Compare the differences of knowledge of forensic nursing among fourth year students enrolled at Al Quds University, Bethlehem University, and Hebron University, during the academic year 2015/2016, in Palestine as related to their gender, place of residence (city, village , camp), and the university .

Research Questions

The research questions have been framed in relation to the above mentioned objectives and the ways in which these can be achieved. By keeping the objectives in mind, the essential ways of achieving them in a systematic and orderly fashion is the basic crux behind framing the research questions. Here are the basic research questions that were framed considering the objectives of the overall research:

- 1 What is the level of knowledge of forensic nursing among fourth year students at Al Quds University, Bethlehem University, and Hebron University ?
- 2 Is there a significant difference in mean knowledge scores of forensic nursing among fourth year students at Al Quds University, Bethlehem University, and Hebron University ?

CHAPTER TWO

Literature Review

Introduction

This chapter presents review of international and regional studies related to concepts of this study in a sequential manner to reflect studies done within the same domain and correlate with the study findings. Studies related to this study concepts were reviewed and retrieved from different resources including journals and textbooks . A comprehensive search was conducted to uncover theoretical and research work related to the study concepts via conducting internet search, implementing many key words like forensic nursing education, forensic science, bachelor degree ,nursing program , and curriculum. Unfortunately the search failed to find any local and published nursing studies in this area.

A major part of the literature review would be looking into the essential aspects or points of consideration in the profession of forensic nursing, as mentioned by several authors and scholars. Forensic nursing is an umbrella term that encompasses diverse subspecialties of forensic nursing who practice nursing, by providing care to victims of violent crime, perpetrators of criminal acts, or care of the deceased, and their families(Caliskan, N., & Ozden, D. 2012). A definition by Lynch in 1991, adopted by the International Association of Forensic Nurses (IAFN) stated forensic nursing was the application of the forensic aspects of health care combined with the biopsychosocial education of the registered nurse in the scientific investigation and treatment of trauma, and or death of victims and perpetrators of violence, criminal activity, and traumatic accidents within the clinical or community institution. (IAFN, 1993) In order to look into the various constituent aspects of the profession forensic nursing development, it is first important that

we consider the various issues that individuals are faced within the profession of forensic nursing as a whole. In the practice of forensic nursing, Mason & Coyle (2008), have described several issues such as the concerns related to knowledge of forensic case implementation , mandatory detention, risks to patients and practitioners, concerns related to custodial aspects, and the inherent differences in the degree of comprehension of the principles and implications of the practice as a whole.

Nursing Science--Origins and Historical Development

In 1854, Nightingale was asked to organize a team of nurses to care for sick and injured soldiers in the Crimea, an area where Great Britain was at war. The conditions she found upon her arrival were deplorable. Wounded soldiers were lying amidst all sorts of filth, rodents and bugs were everywhere and most of the water was contaminated. Nightingale determined that thorough cleaning was the first step toward proper healing. She also began checking on her patients' status at all hours of the day. In the evening, she carried a lamp while making her rounds and providing care to the soldiers. Comforted by her selfless caring and compassion, the soldiers nicknamed her "the Lady with the Lamp," and "the Angel of the Crimea." The hospital's death rate decreased by two-thirds during her time of service(Bisk, 2016).

As (Leininger, 1984)defined nursing is the art and science of caring. Seen as anart, nursing encompasses intuitive, expressive, subjective, creative, humanistic, and holisticdimensions that find expressions through our therapeutic use of self. Meanwhile "the science

of nursing is that body of knowledge unique to nursing” (Kent-Wilkinson 1996, p. 25). Nursing as a profession represents the largest group of knowledge workers in today’s knowledge society. Teaching, the first or oldest knowledge profession was invented in 1794, the year the Ecole Normale was founded in Paris. Sixty years later, Florence Nightingale during the Crimean War of 1853 to 1856 founded what would become the second oldest knowledge profession, but the largest health care profession (Duma, S. 2004) .The human being, as the knowing subject, and object of knowledge of the human sciences was, according to Foucault, permitted to emerge by the decline of the classical regime (at the end of the eighteenth century) as a categorization in disciplinary blocs by professionals in the human sciences (Miller, P. J. 2007) .

Overview of forensic nursing Birth

When Virginia A. Lynch walked into her first crime laboratory, the Star Wars-like equipment, pulsing lights, smells of paint and formaldehyde, and evidence, such as weapons, blood and teeth didn't scare her away; it left her intrigued and inspired. Her obsession with forensics ultimately unfolded a paradigm shift, namely, a whole new nursing specialty called forensic nursing. This unique opportunity to visit the crime lab took place in Texas in 1982 and grew out of her observations as an emergency nurse. Lynch noticed how evidence, such as clothing, specimens, records or personal items were often lost, discarded or returned to family instead of secured and handed over to authorities (Lynch, V. 1995).

"When I asked the police if the person who abused, raped or killed these patients would be caught and punished, they told me it was unlikely because the doctors and nurses lost and destroyed the evidence," she said. "It had never occurred to me that the healthcare professions were unintentionally obstructing justice. Memorialization of injuries through

preservation of evidence and meticulous documentation can help ascertain the level of intent and probable cause for charges to be filed against assailants(Lynch, V. 1995).

"The investigation of trauma prior to surgical intervention or other life saving measures is essential to preserve the image and description of injury before it is lost through a sea of wound cleansing antiseptic, insertion of instruments or suturing," Lynch said. " This requires specific skills and forensic techniques and will later assist law enforcement officers or forensic pathologists to determine if force was used, type of weapon involved, or if it was perhaps self-inflicted."

Vision for forensic nursing knowledge

Injuries that are caused by deliberate or incautious and reckless behaviors of others are described as a forensic case. All injuries that involve traumas are considered as potential forensic cases until their causes are confirmed(Burnard & Morrison, 1995). Health personnel provide treatment and care services to forensic cases, such as domestic violence, sexual assault, abuse, accidents, injuries, suicide attempts, alcohol and substance addiction, food and drug poisoning, criminal abortions, and malpractice, in a previous study .In a study conducted by(Yavuz MF, 2012).In 2002 in the emergency room it was stated that 31.9% of forensic cases that were applied to emergency room were traffic accidents, and 17.1% were poisonings(McCracken, 2002). There is a considerable number of forensic cases seen in ERs, and therefore, health personnel need to have adequate knowledge of forensic procedures. Health personnel, who work in emergency services and health centers, provide service to victims and criminals as well. Health personnel may be the first people to see suspects or victims to get in contact with their families or relatives, to touch their belongings during examination, and to come into contact with laboratory samples that are obtained from suspect or victim. Health personnel should make a forensic evaluation when

they come across a forensic case. Forensic evaluation includes recording the stories, physical examination, the identification, collection, preservation of evidence, the protection of evidence, documenting the evidence, and crisis intervention. Health personnel can endanger the evidence because a lack of knowledge can prevent the correct investigation of forensic cases and can be legally regarded as guilty (Scales, Mitchell, & Smith, 1993). Therefore, health personnel play an important part in the determination of forensic cases, the collection, preservation, and recording of evidence. It is vital that health personnel have extensive and adequate education regarding forensic evidence. However, no studies, in which the knowledge levels of health personnel related to the forensic identification and the collection, preservation, and recording of forensic evidence were analyzed were found. The data that are obtained from previous study in forensic nursing ensured the assessment of provided service and knowledge levels of health personnel, who work in emergency rooms and health centers,

The literature review will basically look into the various examples of quantitative research conducted by several authors on the various means of assessment as well as their effects on the students themselves. In order to understand the essential areas which have to be considered while assessing the students in their knowledge in the particular subject, we first need to collect and collate data related to the theoretical framework of forensic nursing.

In order to understand the inherent ways in which students can be assessed in the knowledge of forensic nursing, it is firstly necessary to outline the basic aspects of the subject as well as the principles that make up the practice as a whole. The theoretical framework of the literature review can be established by taking into consideration the inherent constituents of the practice as a whole.

Role of emergency nurses in forensic evidence

Although nurses in every clinical area may need to recognize, collect, and preserve forensic evidence, emergency nurses are particularly positioned for this activity, as they are often the first to evaluate a forensic patient. A forensic patient is defined as an individual who seeks treatment for a medical complaint that coincides with the law or has the potential to interface with the law. This is a complex process that involves other professionals such as law enforcement and social services (Michel, 2012).

Following are examples of the sorts of patients who might be encountered in any emergency unit and for whom forensic evidence collection may be a part of their care:

- A young man with gunshot wounds from a street fight
- A teen driver in a head-on collision with another driver suspected of being under the influence of drugs or alcohol
- A three-year-old toddler with second-degree burns to the right hand
- An elderly man with a hip fracture and stage III pressure sores in the coccyx area
- A young woman admitted with a broken wrist from falling down the front steps
- A college student requesting treatment for sexual assault that took place at a fraternity party

Keeping the Focus on the Patient

A major role of emergency nurses in forensic evidence collection is maintaining a focus on the patient. The immediate medical needs of the patient are a first concern and should not be delayed in order to obtain forensic evidence (ENA, 2010). However, other team members focused on evidence-collecting activities may need to be reminded that at the center of this

investigation is a patient in need of compassionate physical and emotional treatment. These reminders may take the form of “code phrases” that are generic enough not to appear out of place to the patient but carry a specific focus message to caregivers(Kent-Wilkinson, After the crime, before the trial., 2009).

Direct corrections or confrontations should not occur within the earshot of the patient. This can cause the patient to lose confidence in the caregivers or facility. If necessary, a staff member should tactfully remove the offending person from the patient’s immediate vicinity and discuss the matter out of the patient’s hearing, while maintaining chain of custody (see “Maintaining Physical Evidence Chain of Custody” below).

Assessing and Documenting Findings

Another role of forensic evidence collection for emergency nurses is as observer of both subjective and objective evidence obtained during the interview and assessment process. Objective and evidence-based observations and documentation by an emergency nurse in any of the example situations listed above can help determine the cause of injury and either rule out foul play or assist in establishing that a crime was committed. On the other hand, poorly documented observations or incorrectly obtained evidence can be rendered useless to the criminal justice process(Coram, 1993).

Obtaining Physical Evidence

Obtaining physical evidence for use in determining cause of injury is also an important forensic role for emergency nurses. This evidence can link a victim to a suspect or eliminate a suspect from consideration. Evidence must be secured, packaged, and maintained appropriately to be evaluated and used in legal proceedings.

Maintaining Physical Evidence Chain of Custody

Emergency nurses maintain the chain of custody for any physical evidence obtained. The chain of custody is a process used in forensic evidence collection that provides accurate information about physical evidence and secures the evidence against possible contamination or tampering (Bowring-Lossock, 2006). This process tracks the places the evidence has been kept and the people who have had contact with the evidence, in chronological order. Such documentation confirms that the evidence has been secure throughout the process of obtaining, labeling, packing, processing, and thus ensures that the evidence can be used during the court case.

The chain of custody for any physical evidence obtained during nursing activities with a possible victim is vitally important. Maintaining proper chain-of-custody procedures defends against legal challenges to the authenticity of the evidence (Cewe, 2013). Therefore, it is essential that mandated collection kits and standard collection protocols be used when obtaining evidence (Spangler, 2013). An emergency nurse is most likely one of the first to secure evidence in the chain-of-custody process.

Providing Testimony Occasionally, emergency nurses are called upon to provide testimony in a court case involving evidence they have collected. This is an established part of emergency nursing practice (ENA, 2010). Often this testimony authenticates the evidence that was collected in the healthcare setting. Testimony can also confirm that the chain of custody was maintained during evidence collection procedures.

Patient – centered evidence collection

A nurse is a nurse first and forensic nurse second. Emergency medical treatment will always supersede a forensic evaluation. That being said, the preserving of evidence should

be considered when meeting medical need. Violence, trauma, and abuse assert psychological as well as physical harm. In the midst of delivering physical care and preserving evidence, emergency nurses must keep the psychological well-being of the victim in mind. Sensitivity to a patient's psychological well-being may also require patient advocacy with law enforcement professionals(Coram, 1993).

Following Patient-Centered Principles

Patient-centered evidence collection focuses on the following principles and their application:

- **Maintain patient confidentiality.** It is important to take care when communicating with law enforcement personnel that healthcare information unrelated to the crime is not revealed. As always, this includes attention to the confidentiality provisions of the Health Insurance Portability and Accountability Act (HIPAA).
- **Respect privacy.** Traumatized victims may already feel invaded and violated. Medical procedures such as vaginal exams or inspection of private body parts can further distress patients. Therefore, it is good practice to explain the forensic examination to the patient in addition to asking their permission each time evidence is collected from a different part of the body. Privacy is also important during the interview process. A patient is more likely to provide frank and intimate information in a setting that has visual and sound privacy(Bisk, 2016).
- **Involve support persons as indicated by the patient.** While alone with the patient, a nurse can ask if the patient would like a family member or friend contacted to come in to the emergency department to provide initial and familiar support. However, family members or friends may be either supportive or distressing for the

patient during interview and assessment. Sexually traumatized individuals, in particular, report appreciating having a supportive person nearby in the initial evaluation phases (Decker & Naugle, 2009)). In most cases, it is better to complete the forensic interview solely with the presence of a trained rape crisis advocate, if available, for support.

- **Obtain the patient's consent.** Patients must consent to evidence collection just as they must consent to other treatment in the emergency department. This consent should allow both the collection of evidence and the release of evidence to law enforcement (Spangler, 2013). Many facilities incorporate this consent into their general treatment consent form, but some may use a separate, specific form for a forensic consent. In all cases, consent for forensic evidence collection must be obtained before proceeding. If a patient refuses an examination against medical or legal advice, a clinician should not proceed with the exam. The legal age to agree to or decline a forensic exam for evidence of sexual assault in Texas is 16 years. If a victim is under the age of 16, his or her parent or legal guardian must sign the consent.
- **Establish rapport.** An empathetic and understanding demeanor will assist in obtaining needed information from a traumatized patient. Speaking slowly, making eye contact, and showing that the patient is being listened to are all ways to quickly establish rapport. Of all people who will come in contact with a patient, the nurse is most likely to be able to develop trust (Bowring-Lossock, 2006).
- **Show respect and patience.** The patient has just experienced a significant life event and may need time to process questions for response. In some ways, answering questions is helping the patient to organize and internalize the experience. Start with

general questions before moving into the details of the violent event. Both respect and patience support the patient's psychological well-being(Renaud, 2013) .

Providing Professional Support and Referral

A traumatized patient will most likely need professional support beyond what can be provided in the emergency department. Sexual assault victims, in particular, have increased risk of posttraumatic stress disorder, depression, anxiety, substance abuse, eating disorders, and suicidal thoughts (Morisson, 1990). All traumatized patients, then, need to be linked with resources to attend to their psychological distress.

Printed information about confidential counseling and crisis intervention sources should also be available to provide to the patient and/or family. They are often unable to digest and respond to large amounts of information and direction in the initial period after the trauma. Offer to contact the services directly to set up a first appointment. By offering options and promoting informed decision-making, the patient is assisted through the early stages of their crisis (Friedman Ben-David, 2000).

Understanding Survivor Response to Trauma

Individuals respond to trauma in various ways based on their own background, developmental phase, and the type of trauma inflicted. As with the pain experience, a survivor's response to trauma is unique. However, there are commonalities of survivor response that can help when supporting the patient during this period. Renaud (2013), in a review of the research, found three main categories of symptoms related to posttraumatic stress disorder (PTSD). The following examples illustrate how survivor responses may present.

Negative Perspective

Even though the practice of forensic nursing harbors immense potential for the use of therapeutic practices to help in the healing of mental trauma, the practice is also one with immense scope for the harboring of negative feelings and perceptions. This is especially due to the fact that the use of therapeutic measures requires a great deal of empathetic connection between the nurse and the patient, which can be a very vulnerable position to be in. Due to this, nurses who are not accustomed to deal with the immense pressure and mental stress that comes with field duty in forensic nursing, especially those related to psychiatric patients and sexual offenders. According to the Majesty's Stationery Office HMSO (1990), the profession of forensic nursing requires the practitioner to be in a very vulnerable position, owing to which the chance of getting contaminated with negative views also rises to quite an extent. There have been several scholarly articles that have outlined the inherent ways in which negative perspectives build up in the profession as a whole. One of the essential ways in which negative perspectives are built up during the practice of forensic nursing has been described by Kent-Wilkinson (1996), who stated that the chances of development of such negative outlooks and perceptions occur during especially violent cases of brutality and sexual assault, during which nurses may develop an outlook centered around the belief that the offender does not deserve any respect owing to the opinion that he is beyond repair and can never be changed from his previous ways of thinking and perceiving. The author also argued that the maintenance of a positive outlook in this practice is one of the most difficult as well as the most important aspects to consider.

According to Richman et al (1999), one of the leading causes of accumulation of negative perspectives among nurses in the field of forensic nursing is owing to the heavily distorted perceptions that are drawn by society with regards to certain types of offences, especially with relation to sexual offences. These misguided beliefs and perceptions which

are ushered into the minds of the practitioner due to societal constraints and cultural values are the leading causes of contamination of the whole practice in general. In most cases, according to Rogers & Topping-Morris (1997), the birth and sustenance of negative outlooks is usually affected by the inherent extent of the responsibility that the practitioner takes up during the practice. Moreover, according to Scales et al (1993), the development of negative views and outlooks in the profession is also dependent on the inherent satisfaction and reward that the practitioner gets from the practice as a whole.

Positive Views

As mentioned earlier, a major source of positive views in the practice of forensic nursing comes from the fact that there is a need for empathy and therapeutic direction in the practice as a whole. This can have negative connotations as well, but these can be overcome once a sense of control is achieved in any situation. According to Burnard & Morrison (1995), positive feelings, perspective and outlooks are bound to arise once the situation has been planned intricately so that it can be executed in a systematic fashion. On the other hand, this aspect of always striving to maintain control over the situation is also an avenue that can invite lots of negative outlooks and perceptions. According to Majesty's Stationery Office (HMSO, 1999), there is a constant struggle between liberation and control in any situation that can be encountered during the practice of forensic nursing.

Security versus therapy

Another important aspect that has to be considered as a constituent of forensic nursing is the inherent tension between security and therapy during the practice as a whole. The responsibility of security during the patient sessions in forensic nursing is diverse and varies from country to country. For instance, the nurses in UK are associated with the roles of both therapy as well as security, while the nursing section in the forensic sectors of US

and European countries have security and therapy as two different departments (Day, 1993). According to (Mason & Chandley, 1999), the aspect of security especially comes into the picture when dealing with the security measures which are associated with the safety of the patient during the procedure. Owing to the aspect of differences as well as the tension borne out of these differences between security and therapy as a whole, the aspect of security during these procedures can be maintained through the formulation and implementation of certain policies and measures. Policy formulation can work especially well in aspects such as escorting, patient visits, searching, as well as counting patients. The inherent tensions during the procedure arise due to the seeming differences that are observed between approaching the practice through a therapeutic point of view and a security maintenance way (Burrows, 1991).

The need for security during a forensic nursing practice can essentially contradict the need for vulnerability and empathy during that practice on various levels. It is this contradiction that can give rise to several problems during the practice as a whole. There are several problems that have been observed when the roles of security personnel and the therapeutic roles of nurses clash (Bernier, 1986). It was then formulated by Hammer (2000), that there needs to be a holistic approach to the whole procedure, maintaining a subtle balance between both the securities related aspects as well as the therapeutic perspectives that are required for the practice as a whole. This balance between these two seemingly different practices was found to be hinging on the essential relationship between a patient and a nurse, which is the base for the exploration of the trauma experienced by the patient. Once the relationship between the nurse and the patient has been established on empathetic grounds, the base of the therapy is set and the practice can be systematically executed from a therapeutic point of view.

Management of Violence

Owing to the type of offenders that these nurses come in contact with, including sexual offenders and murderers, the scope for violent outbursts and emotional trauma for both parties is very high, with the danger almost always looming over the practice as a whole (Coram, 1993). As with roles and responsibilities related to security, the management of violence is also an added responsibility for nurses in countries like the UK, an aspect which has resulted in several problems and issues arising from an inadequacy of maintaining balance between the two seemingly contrasting fields of violence management and therapy. There have been several instances noted by authors through their personal and observational experiences where the inherent therapeutic roles of forensic nurses have been obscured and heavily affected by their inability to cope up with the procedures involved in the management of violence in these practices (Mason & Mercer, 1999).

According to authors like (Whittington & Wykes, 1992), due to the increased time periods where nurses have to interact with violent offenders, the degree of stress and fear is very high among these practitioners. The origin of stress can be attributed to the inherent fear that accumulates in forensic nursing staff over the anticipation of violence when in the vicinity of the offender during the practice. This is the reason why the aspect of nurse-patient relationship in the practice is heralded as one of the most essential frameworks for building up a successful and systematic forensic nursing practice. The inherent way that this anticipation of violence affects nurses is that there is a complex mixture of fear and adrenaline, which essentially gives rise to stress. Once stress comes into the picture, it acts as one of the most concrete obstacles in the satisfactory fulfillment of the therapeutic practice as a whole.

There is one aspect which has been essentially ignored in the practice of forensic nursing as a whole. This aspect is associated with the origin and sustenance of fear during the practice as a whole, which is generally the major reason for the development of stress and other disorders which can hamper the overall therapeutic practice to quite an extent. If the origin of fear in the practice of forensic nursing can be deciphered, there can be effective clarity as to which aspects have to be strengthened or concentrated on in order to ensure a wholesome and holistic approach to the procedure as a whole. On the other hand, according to Morisson (1990), the practice of forensic nursing is considered to develop a “macho” culture during practices and procedures in order to ensure that nurses and the practitioners in general are not prone to external observation as being fearful and hence, less competent.

In numerous cases, it has been noted that the inherent fear and stress associated with the practice as a whole originates not only from the patients, but may also originate from other sources. In most cases, the stress and fear arises from judgment and supervision by managers and heads of departments, who are wrought with the inherent aspect of ensuring efficiency in the practice. The patients may also be affected by the fear and stress generated through supervision from third parties, owing to the fact that most patients would not be too willing to reveal their personal feelings and would not be comfortable in confronting their inner demons in a supervised setting(Storey & Minto, 2000). Due to the incidence of high stress as well as the precedence of fear and anxiety in the practice as a whole, the forensic nursing staff need to have constant support and confidence, both from self-motivation as well as from external sources, including peers and therapeutic efficacy .

The importance as well as the differences between both security and therapy aspects of the practice of forensic nursing, another factor which essentially defines the success of a forensic nursing practice is the inherent degree to which the nurse feels satisfactory with the

therapeutic direction and techniques which have been undertaken for the practice as a whole. There could be several issues related to the aspect of maintenance of therapeutic efficacy in the practice of forensic nursing. According to Peternelj-Taylor & Johnson (1995), the essential issues related to the efficacy of the practice arise during the orientation between the patients and the nurse during the start of the treatment. In many cases, it has been noted that the patients perceive the inherent sincerity and genuineness of the nurse to be qualities that can be exploited for their own pleasure. This can be the cause of several degrees of pain, fallacy and failure in the practice as a whole. Owing to reasons such as these, the formation of a strong empathetic bond between a nurse and patient, even though it is one of the most important aspects related to the success of the therapeutic practice as a whole, is an aspect which is wrought with several difficulties and vulnerabilities.

More than often, patients view the nurses as a part of a system that they have come to hate and usually look to scourge the empathetic and vulnerable situation that the nurse places herself in during the therapy for any and all aspects that can be taken advantage of. In several cases, authors like Peternelj-Taylor & Johnson (1995), have suggested that the nature of the relationship which is established between a nurse and a patient to be dubious, rather than an empathetic relationship. The authors point to the seemingly shallow and superficial relationship which patients maintain with their nurses during times of therapy. The patients usually view their nurses as confidants or friends as long as they are able to provide them with emotional relief from their trauma. On the other hand, when the nurse looks to explore the inner recesses of the offender's psyche and help them with confronting their demons, the patients may find it extremely uncomfortable and may associate the nurse to be an instrument of the system that they have come to reject and abuse. This is also one of

the aspects that contribute heavily towards the inherently large incidence of violence in the field of forensic nursing.

Owing to the above mentioned facts, aspects such as detention have to be considered in order to maintain a healthy and violence-free therapeutic practice. These practices are essentially aimed at ensuring that the patients do not use their nurses as mere playthings or “dumping grounds” for their own repressed feelings and emotions which they are inherently afraid to encounter and understand. In such cases, there are several aspects which can be considered for the fulfillment of the therapeutic practice in a wholesome and holistic fashion. Some of these include the use of practices and principles of effective communication, teamwork, as well as the use of multi-disciplinary approaches in order to ensure an effective increase in the efficacy of the therapeutic practice as a whole. There are several ways in which the patients may seek to advance in the eyes of their peers by toppling the system that they are completely hate-filled against. For example, as pointed out by Allen & Bosta (1993), the patients may actually target the nurses as potential victims of their devious deeds, the prize of which is essentially seen as a higher degree of recognition and advancement among the group of patients which delve into these kinds of practices.

These kinds of activities practiced by the patients in a controlled therapeutic environment may have quite a profound effect on the nurses themselves, causing them to either withdraw from the therapy itself or seek releases from the build-up of stress within them through external sources. An inherent increase in the levels of stress and fear is noticed when the nurses try to bring control over the situation by following security protocols and operations aimed at bringing stability to the situation as a whole. According to authors like Alexander-Rodriguez (1983), the fear and stress amongst most forensic nurses arise from their inability to control the feelings of being used, manipulated and maneuvered by the

intentions of their patients. This is especially scary and upsetting due to the fact that the nurses have to place themselves in a very vulnerable position in order to ensure a wholesome holistic and empathetic relationship with the patient. Moreover, the inherent needs and devious intentions of patients can prove to be a heavily influential as well as a traumatizing experience for the nurses themselves, owing to the inherent vulnerability associated with the position that she places herself in during the practice.

Training

Another important aspect which has to be considered in the case of the essential constituents of the practice of forensic nursing as a whole is the aspect of training, which in turn is also riddled with difficulties and issues that nurses face on a daily basis in their professional lives. The aspect of training which can be concentrated on from a purely radical perspective, include the various issues that undergraduate students face during the practice of placements and securing of services in hospitals and universities. The inherent aspect which can be pointed out to be an issue is the struggle between “custody” and “care” that is exhibited during the practice of forensic nursing as a whole. On one hand, the philosophy that is predominantly preached in a particular institution is the one that becomes ingrained into the mental framework of potential forensic nurses. This philosophy may either consider custody to be the important aspect to consider during the practice of forensic nursing, or may either herald caring and empathy as the crux of the practice. Either ways, the philosophy that the students learn from their respective institutions is the one which ultimately helps them in securing a placement or become an intern. Moreover, the philosophy which is preached by an institution also determines the inherent way in which a student looks at the overall practice of forensic nursing, including the aspect of whether to approach from a controlled and systematic point of view, or to give oneself into empathy in

order to ensure that the basic framework of the therapy is set in stone. However, according to Woodson (1996), even though the philosophy that is followed in an institution may inherently shape the way a student approaches the practice of forensic nursing, it is not nearly enough to equip the student to make essential decisions in a high-pressure situation which will be the essential gist of the practice of forensic nursing. Authors like Peternelj-Taylor & Johnson (1995), are of the opinion that there can be a subtle balance between custody and care, a balance which could very well be the most important aspect in ensuring that a therapeutic practice goes on in a systematic, professional as well as an empathetic fashion.

Some of the other aspects which have been explored by authors like Peternelj-Taylor & Johnson (1995), with relation to the inherent importance of these aspects in training and the preparation of nurses in the field of forensic nursing, include a deep understanding of the professional relationship between the nurse and a patient in a clinical setting, the various operations and activities involved in conducting the therapeutic session in a controlled and systematic manner, as well as an in-depth understanding of emotional trauma and its inherent effects and influences on the practice of forensic nursing. Another major part of the practice of forensic nursing is the fact that nurses have to be efficient in the practice of self reflection and introspection into their own psyche. This is essential due to the fact that the practice has a large potential for emotional blockage as well as build-up of intense emotions and feelings, all of which the nurse would be prone to while developing an empathetic relationship with the patient.

There have been several surveys which have been conducted for understanding the inherent aspects which form the crux of training for the practice of forensic nursing. In a survey conducted in UK by the author Byrt (1990), some of the most important aspects

which were considered crucial for the training of nurses in the practice of forensic nursing included aspects such as the development of essential communication skills, an in-depth knowledge of the principles of psychiatry, an inherent adeptness towards the aspect of counseling and its various principles, as well as an expertise in the myriad nursing skills associated with psychiatric and forensic nursing.

The inherent ways in which training can effectively influence the overall perspective of nurses towards the practice of forensic nursing is essentially dependent on factors such as the overall quality of training and the coursework which they followed, the relationship which they had with the members of the faculty, as well as the inherent methods as well as areas of concentration and focus which were discussed in their training procedures. If a more closer look is attributed to the above mentioned factors, it is seen that the inherent principles of training go beyond the specifications of forensic nursing as a practice, but follow a more general approach which can be ordained as being specific requirements for any individual willing to put themselves in a vulnerable position for the benefit of another individual, who is usually associated with quite a large history of violence.

Culture

The impact of work culture as well as the inherent professional cultural implications and principles that are followed in a forensic nursing practice have a huge impact on the overall direction of a therapeutic practice. In the case of culture, the inherent divide and tension between security and therapy plays a huge role, influencing the very clinical and philosophical foundations of the practice itself. For example, the Blom-Cooper report by HMSO (1992) looked into the professional work culture which was prevalent in Ashworth hospital at that particular time period. According to the report, it was clearly stated that the culture that was followed was one which exalted the aspects of professional bullying and

increased prejudices among the staff. On the other hand, the same report also cited the cultural environment in the same hospital to be too liberal in its practices and principles. From this example, we can see that the inherent culture behind a practice is constantly striving to find a balance between security and custody-related practices on one hand, and a constructive empathetic and therapeutic overview on the other hand.

The culture at a professional setting can be understood by breaking it down to its essential building blocks, which make up the inherent aspects and the repertoire of principles, philosophies and regulations that are in place in a particular setting. For example, the inherent aspect of professional culture in a clinical setting was studied by Mason (1993), where he successfully deciphered the aspects which governed the inherent culture into three basic groups or faculties. The three main groups that were observed in the clinical setting were as follows; there was a small group of nursing and managerial staff with positive outlooks and perspectives towards the inherent work as a whole; there was another group of nursing and managerial staff who had a predominantly negative outlook towards the aspect of work and therapy in general; there was a third group of staff members who acted as a toggle between the negative and positive groups above them in the hierarchy. The toggle staff was the most largest group in the clinical setting as a whole, as they followed and changed allegiances to whichever group was in control and “power” at a particular time. The toggle staff would mold their perspectives and outlooks on the basis of the person who was in charge of them at a particular time. For instance, if an individual with a predominantly negative perspective took the reins of a particular department or ward, the members of the toggle staff in that particular ward or department would also assume a negative outlook towards the practice as a whole. At the same time, if an individual with a largely positive disposition took control over a particular ward or department, the toggle staff of that

department or ward would readily change their previously negative outlooks to more positive perspectives.

Other than the three-group model of culture in a clinical setting, as described by Mason (1993), there are several other authors who have tried to dissect the culture in a clinical setting into more finer and specific aspects so as to understand the inherent importance that culture could play in the practice of forensic nursing as a whole. For instance, Morrison (1990) described various inherent groups which formed a part of the culture in clinical settings through observation and surveys of numerous hospitals and clinics. His area of differentiation is much more diverse and intricately dissected than the one presented by Mason (1993), in which Morrison (1990) explains groups of nursing staff who would appear positive in their external repertoire and would put on a mask of consideration and therapeutic concern when needed, while they exhibited rough and domineering personalities behind the scenes. There were other differentiations made by Morrison (1990), including the aspect of “superman” among the nursing faculties and staff members in various hospitals and clinical settings. The “superman” is usually the name given to the nurse who has the toughest outlook towards patients and has the ability to ensure that any kind of patient, even the ones with the most devious and violent past, are kept within accepted limits of behavior and understanding. These kinds of cultural outlooks and perspectives have a huge impact on the way in which staff members and nurses approach the inherent aspect of therapy as a whole. This is the reason behind the fact that culture is one of the most studied and inherently important aspects for defining the way in which patients and the approaches towards their healing are considered in a clinical setting.

The basic constituents of the practice of forensic nursing as well as the essential issues that plague them have been described in the above part of the literature review. These

constituents are also essential in providing parameters and standards according to which the inherent knowledge of students can be measured and assessed. The next part of the literature review will look into the various ways in which the assessment of students can be done in a systematic and well-defined way.

Assessment: Goals and Techniques

In order to delve into the various methods and means of assessment of knowledge of forensic nursing among fourth year nursing students, we first need to understand the inherent goals that these methods of assessment seek to establish or achieve. According to Ronald & Epstein (2007), there are three basic objectives behind the reason why most medical institutions, postgraduate programmes as well as other bodies and organizations associate with medical research and nursing conduct such assessments to measure the knowledge of their staff or/and students in the subject. The objectives behind the assessment are as follows:

- To ensure that the capabilities of nurses in general are optimal .
- To ensure that the common good is served by identifying incompetent nurses before they actually practice .
- To ensure that there is a set standard on the basis of which nurses can be picked in the future

The types and implications of assessment can also differ on the basis of what purpose a method of assessment actually seeks to serve. On the basis of the purpose behind each method of assessment, they can serve various functions and can be essential for various aspects, both corrective as well as constructive. These are the two different types of assessment as described by Ronald & Epstein (2007):

- Summative: these kinds of assessment techniques are basically aimed at understanding and acknowledging a particular set standard or bar, on the basis of which a judgment is passed. These kinds of assessment are generally used for obtaining a certain judgment about the individual or entity being judged, on the basis of which that particular individual or entity is deemed “fit” or “qualified” for a particular task. These kinds of assessment is also used for understanding and assessing the inherent ability of an individual to advance up the ladder of hierarchy or to take up larger responsibilities in a particular domain or arear of expertise/profession.
- Formative: these kinds of assessment techniques differ from the above mentioned summative assessment techniques in the fact that these are used for more than just passing a judgment about an individual or entity and deeming them fit or qualified for a particular task. These assessment techniques are, in a sense much more constructive and critical in terms of providing feedback to the individual or corporate entity being assessed. This is because formative assessment techniques provide a particular judgment after the assessment has been completed, not unlike summative assessment techniques. But, it does not stop here. These techniques further provide constructive feedback on the basis of the assessment, in order to ensure that the underlying problem to the shortcoming can be uncovered and resolved. Hence, it can be said that the formative techniques of assessment can invariably provide reassurance as well as instill a sense of reflection in the individual being assessed.

Formative as well as summative assessment techniques differ from each other in terms of the inherent ways in which they influence overall development of the individuals being assessed. In the case of formative assessments, these techniques help in the provision of

benchmark for those individuals who are new to a particular field and are looking to excel in it. These techniques can help in identifying a mass a unrelated pieces of knowledge and help in simplifying it so that the novice can derive essential meaning out of it. These techniques can also be heavily used to increase the motivation of students and provide them a set direction and path on which they have to travel in order to keep setting higher standards for themselves and keep pushing their boundaries(Friedman Ben-David, 2000).

On the other hand, even though summative assessments are essential in ensuring that only top-quality professionals with expertise in their field are chosen to progress up the ladder of success, they can act as an essential barrier for individuals to discover themselves and step up to try their hand at new and unique responsibilities to which they have never been exposed to before. In short, while the summative assessment techniques merely work to weed away all the novices from amidst the elite groups of professionals, formative techniques seek to select this group of novices and help them set new standards for themselves so that they can explore their hidden potential.

According to the above mentioned techniques of assessment, we have to choose a method of assessment that will work to weed out potential incompetence in the students while also serving to give them enough space to ensure adequate learning takes place. Although formative techniques of assessment, when viewed from the learning point of view, do seem to be the more effective form of assessment in this case, summative techniques can be equally beneficial to students. This is because, from a theoretical point of view, students will automatically drawn towards the learning of aspects on which they will be tested including the aspects which they are especially weak in. On the other hand, due to the inherent amount of scope for learning that is provided through feedbacks by way of formative assessment techniques, these types of assessment techniques would be most

suitable for our particular research. Through the use of these assessment techniques, we can assess the vary areas and reasons why students exhibit incompetency in the practice of forensic nursing, further exploring the inherent issues that may have caused these forms of incompetence. Once these issues have been uncovered the inherent solutions to these issues can also be found out through secondary research and assessment. These solutions will act as the feedback for the students, which can help them overcome their issues with relation to incompetency.

There are several methods which can be considered to be perfect for the assessment of the level of knowledge that students demonstrate towards the subject as a whole. It has been suggested that the use of more than one method for the assessment of students is highly preferable as it can help in dealing with any shortcomings or inaccuracies which may have stemmed from the use of any one particular method of assessment. Furthermore, there a few aspects which can be considered in order to select a particular method of assessment; one that satisfies the inherent aspect of measuring the knowledge of students in a wholesome and holistic way. The five criteria, as described by Van Der Vleuten (1996) for the same are mentioned below:

- The degree of usefulness of the particular method of assessment .
- The degree of reliability of the technique in question, including the inherent accuracy of results it provides .
- The overall sense of validity that the technique strives to provide, which essentially includes the aspect of whether the technique inherently measures the aspect which it is supposed to .
- The overall impact that the technique has in terms of scope for further learning and growth through constructive feedback .

- The degree of acceptability of the method of assessment, which can be measured in the form of costs incurred by the institution, students and faculty for conducting the procedure as a whole

There are several assessment techniques that can be used to measure the knowledge level exhibited by a student towards his/her practice. Out of the myriad and diverse techniques, here are some of them which can be explored for the purpose of our research: Multiple choice questions provide the opportunity for students to explore a wide range of clinical contexts. This implies that the extent of exploration possible through multiple choice questions is much more than that offered by open ended and direct questions. Moreover, multiple choice questions can be addressed to a large number of students in a very short time frame, owing to the fact that the results of these questions can be easily evaluated using computers. This also helps in the administration of a standardized format of questions and their theoretical layout, which can then be used to assess the competency of students either in the format of some particular clinical or practical context, or along a variety of contexts in the field of forensic nursing.

The formats of the multiple choice questions may include either a choice from a multiple number of answers (usually four to five in number) or, as is the case in some the newer formats, the questions may also be related to the assessment of diagnostic reasoning in students. This aspect of diagnostic reasoning helps students understand the importance of critical thinking during the therapeutic procedures involved in the practice of forensic nursing. In other words, the aspect of diagnostic reasoning can inherently help equip students to think on their toes and be decisive in their actions. The aspect of critical thinking can heavily influence the ability of students to equip themselves for oral examinations which would include the aspects of clinical reasoning and decision making during real-life clinical

cases. A good example of a multiple choice question which addresses the aspect of diagnostic reasoning would typically include ambiguous situations which may be presented in real-life cases where the inherent evidence and proof behind the situation is too meager to facilitate the use of theoretical or factual knowledge. For instance, the question may present a real-life clinical situation to the student, such as the evidence of vaginal discharge in a patient. The question may then take into consideration another piece of seemingly separate and unrelated evidence, such as the presence of dysuria in the patient. The gist of the question would basically ask the student to answer in terms of the probability that the introduction of the seemingly new and unrelated pieces of evidence has towards affecting the overall outcome of the case as a whole.

Definition of Terms

For the purpose of the study, the term “forensic” or “medico-legal” was defined as health care situations or conditions that may have legal implications (Virginia A. Lynch, 2011). Depending on the nature of the medical situation, healthcare providers may intersect with the law (Freedberg, 2008). The forensic aspects of care include the assessment, recognition, intervention, and evaluation of patients, families, or communities in regards to abuse, neglect, or other forms of violence (Freedberg, 2008).

Conceptual and operational definitions for the study’s dependent and independent variables were as follows:

1. *Forensic*. (adjective) Forensic as a term has been defined as “pertaining to the law”.

The term *forensic* originates from the Latin word *forensis* meaning public forum or “of the forum” where the law courts of ancient Rome were held. The function of the term is as an adjective (Merriam-Webster’s Online Dictionary, 2004). Today, forensic refers to the application of scientific principles and practices to the

adversary process where specialty knowledgeable scientists play a role. (American Board of Forensic Psychology, 2007)

2. *Forensics*. Forensic science (often shortened to forensics) is the application of a broad spectrum of sciences to answer questions of interest to the legal system. This may be in relation to a crime or to a civil action. The use of the term "forensics" in place of "forensic science" could be considered incorrect; the term "forensic" is effectively a synonym for "legal" or "related to courts" (from Latin, it means "before the forum"). However, it is now so closely associated with the scientific field that many dictionaries include the meaning that equates the word "forensics" with "forensic science". (Wikipedia, 2007c; 2007d)
3. *Forensic nursing*. Forensic nursing is an umbrella term that encompasses diverse subspecialties of forensic nursing who practice nursing, by providing care to victims of violent crime, perpetrators of criminal acts, or care of the deceased, and their families. A definition by Lynch in 1991, adopted by the International Association of Forensic Nurses (IAFN) stated forensic nursing was the application of the forensic aspects of health care combined with the biopsychosocial education of the registered nurse in the scientific investigation and treatment of trauma, and or death of victims and perpetrators of violence, criminal activity, and traumatic accidents within the clinical or community institution. (IAFN, 1993a) .
4. *Forensic nursing subspecialties*. Nurses who are death investigators, sexual assault nurse examiners (SANEs), interpersonal violence nurse clinicians, forensic emergency nurse specialists, correctional or prison nurses, forensic psychiatric nurses, forensic community mental health nurses, forensic pediatric or geriatric nurses, or legal nurse consultants all fall within this field of practice. (IAFN, 1993b)

5. *Forensic science.* Forensic science (often shortened to forensics) is the application of a broad spectrum of sciences to answer questions of interest to the legal system. This may be in relation to a crime or to a civil action. (Wikipedia, 2007c) .
6. *Forensic medicine.* Legal medicine or forensic medicine is the science concerned with the application of medical knowledge to certain branches of the law, both civic and criminal; the branch of medicine that has a specifically legal purpose, for example, establishing the cause of a death. (Encarta dictionary, 2007) .
7. *Injury.* “The term ‘injuries’ has, by and large, replaced ‘accidents’ in the prevention literature to highlight the health impact on the person and the existence of preventable factors in their causation (Waldram, Herring, & Young, 2006, p.85).
8. *Forensic nursing science knowledge.* Conceptually defined as “the application of the forensic aspects of healthcare combined with the bio/psycho/social/spiritual education of the registered nurse in the scientific investigation and treatment of the trauma or death of victims and perpetrators of violence, criminal activity, and traumatic accidents” (Lynch & Duval, 2011, p. 5). Knowledge was operationally defined as a student’s score on a 50-item faculty developed test covering the knowledge aspect of the forensic nursing science education course content.
9. *Nursing students.* Participating nursing students included BSN senior level Students currently practicing registered nurses enrolled for academic or continuing education credit .
10. *Forensic patients:* are either victims or perpetrators of non-natural occurring situations (e.g. injury, poisoning, violence, or neglect).

CHAPTER THREE

Methodology

Introduction

This chapter describes the methodology used in this study; it also includes the study design, study population, accessibility and ethical considerations, study period, eligibility criteria, data collection and data analysis procedures. In addition, it illustrates the validity and reliability of the instrument constructed and utilized for the purpose of data collection in this study. Few instruments have been designed to measure knowledge in forensic nursing science, and even fewer research articles provide documentation of the reliability and validity of such instruments. One article was discovered in which Fitzpatrick and colleagues (2012) developed a 20-item multiple choice instrument and a skills checklist to evaluate knowledge and competencies specific for forensic aspects of sexual assault. Although the authors examined content validity for the knowledge-based test, they did not report on the internal consistency of the test nor did they address any inter-rater reliability for the skills checklist. The essential methodology which was used for this research was primary research method for the collection of data were the use of questionnaires to do so.

Study Design

This study was quantitative in nature. That is, it utilized the descriptive cross sectional study design when attempting to obtain information at one point time from a large number of subjects, use of survey methodology is considered appropriate (M. D. Gall, 2003). According to Polit and Beck (2004), the quantitative research is a collection and analysis of numeric information that is typically conducted within the traditional scientific method which is systematic and controlled. Burns & Grove (1997) described the descriptive

design as "a design that provides information about the phenomenon through observation, and a picture of situations as they naturally happen, and they are used to identify problems with current practice" (p. 250). Polit and Beck (2004) and Heath et. al. (1995) also pointed out that the main objective of descriptive research is the accurate description of persons, situations, or group, and the frequency with which certain phenomena or characteristics occur.

Study Population

The study population were consisted of all male and female fourth year nursing college students who wereregistered in the records of Al Quds University, Bethlehem University, and Hebron University, in the current year (2015/2016). The three University's records (Al Quds University, Bethlehem University, and Hebron University, 2016) showed that the total number of all fourth year nursing students who were enrolled at the three universities in 2015/2016 were 183 students. Of the 183 students, 25% were males and 75% were females.

Sampling method

A stratified sampling method (proportional allocation) : a list of the number of classes in each education major, the number of students in each class, and names of students in each class were obtained from registration offices in the mentioned universities. Stratification process of groups were created depending on gender & education major.

Independent and Dependent Variables

The independent variables include age, gender (male, female), place of residence (city, village, and camp), and education major. The dependent variables include forensic nursing knowledge among fourth year nursing students.

Instrument Development

A 50-item knowledge-based test was developed from the instructional blueprint developed by forensic experts panel .The test items included typical response item formats (multiple choice questions). Faculty members with test construction and forensic expertise reviewed the items for content validation, appropriate level of complexity, and correctness of answers and distracters; the test was alpha tested with volunteer students, and the test items were revised according to feedback. The data collection instrument in this case would be through the use of questionnaires having an array of multiple choice questions. The questionnaire was designed and developed in such a way so as to encompass all the essential areas that need to be nurtured and developed in students.The questionnaire was developed into quantitative covering the following parts:Part one: This part dwelt on personal and demographical data, including age,gender, place of residence ,education major and university .Part two: this part consists of 50 multiple choice questions focused on the respondent's knowledge towards forensic nursing .

Reliability of the Study Instrument

Current practices for test development recommend using various sources of evidence to examine validity and reliability (McDonald, 2007; Oermann& Gaberson,2009). Three such practices for assessing validity include: 1) content validity (degree to which items reflect relevancy), 2) criterion related validity (extent to which items are related to external set of criteria) and, 3) construct validity (extent to which items reflect the concepts being measured). An initial step in examining instrument validity is to have a panel of experts assess the content of the blueprint and the relevant instruments.Reliability refers to an instruments ability to accurately and consistently measure targeted concepts and their stability, internal consistency, and equivalence. Three common approaches to testing for

reliability include test-retest measures for stability, Cronbach alpha for internal consistency, and inter-rater reliability for equivalence. Knowledge examinations are typically assessed for internal consistency using the Cronbach alpha or Kuder Richardson.

The researcher computed the reliability for questionnaire in the pilot study before collecting the original data. A Pilot Study conducted on fourth year college students, which randomly chosen from the available sections of all general classes. Fourth year college students who were enrolled in the selected section excluded from the total sample ($n = 183$). There are three goals of the pilot study:

(a) Ascertaining the amount of time (30 minutes) necessary to fill out the cover page and complete the test, (b) identifying any confusion about the process to administer or complete the test that may affect future data collection, and (c) obtaining the internal consistency reliability estimates of the test. The reliability for the questionnaire was checked for the entire sample, and Cronbach Alpha was 0.85.

Data Collection

The written approval from the Higher Committee for Nursing of Al Quds University, the president of the Bethlehem University, and the president of the Hebron University was obtained. The data collected from fourth year nursing and midwifery student. The questionnaires were administered during the regular class time . The researcher contacted each lecturer in advance asking for permission to administer the test in his/her class. The date and time to administer the test determined by the researcher and the lecturer of the class. The researcher attended on time for each appointment and terminated the data collection process at the agreed-upon time. The procedure to administer the test was the same for the three universities .

Inclusion criteria

All males and females students attended the fourth year nursing and midwifery classes on the time of conducting this study and registered in the records of Al Quds University, Bethlehem University, and Hebron University for the academic year 2015/2016.

Study Setting

The study basically was conducted among nursing students in the three universities itself, with the faculties acting as supervisors for the examination. As the assessment is essentially aimed at exploring the various areas where students are facing difficulties and have issues understanding, the examination include certain strict rules such as avoidance of plagiarism and cheating.

Study Period

The examination was conducted in a time frame of a day itself in the beginning of the second semester 2015/2016 .

Ethical Considerations

Confidentiality was maintained through the following steps:

- The written approval by research & ethical committee was obtained from the Institutional Review Board (IRB) of Al Quds University.
- A permission to conduct this study in Bethlehem & Hebron universities was obtained from University Presidents.
- Students privacy were protected by allowing for anonymous and voluntary participation.
- An informed consent was obtained from each participant.

Data Analysis

Data analyses was performed by using version 23 of the Statistical Package for Social Sciences (SPSS). The purpose of these analyses are to answer the research questions .

The level of significance for all statistical tests was set at $p < 0.05$. There is only one correct answer for each item in the test; therefore the researcher recoded the items as correct and wrong answers before performing the analyses. The final data set was screened before the actual statistical analyses to discover any possible data entry errors. The knowledge was computed. Descriptive and inferential statistics were used to summarize data. Descriptive statistics included frequency distribution, percentages, means and standard deviations.

Mean and standard deviation (SD) scores of nursing students in forensic nursing areas as related to their gender, place of residence (city, village, camp), and education major were included.

Independent Samples t- test was used to compute the mean and standard deviation (SD) scores of students in forensic nursing areas as related to their gender, place of residence (city, village, camp), and education major.

A three-way ANOVA was utilized to compute mean and standard deviation (SD) scores to answer the second question, "Are there a significant interaction in mean knowledge scores of forensic nursing among fourth year nursing students at Al Quds University, Bethlehem University and Hebron University during the academic year 2015/2016 based on gender, university, and place of residence?" In addition, independent sample t-tests was used as a follow up technique to examine where the significant differences occurred in the interaction between gender and education major.

CHAPTER FOUR

Results

Introduction

This chapter presents the main results of the study using a descriptive and inferential analysis. The descriptive statistics are in terms of utilizing frequencies, means, standard deviations and percentage of the socio-demographic data analysis. Characteristics and variations among participants are presented in the form of tables, graphs and figures. For the inferential statistics the researcher used one sample t-test, independent t- test to analyze the parts of the questionnaire which was developed to measure the participants knowledge of forensic nursing. One- Way ANOVA test also was used to compare knowledge mean among 4th year nursing students to for differences. Tukey Multiple Comparison test-Post Hoc test was used to find out in favor of whom the differences were related. According to Polit and Beck(2004), the t- test and analysis of variance (ANOVA) are both parametric tests that can be used to test a significant difference between group means, whereas ANOVA is used when there are more than two groups. Three way ANOVA test applied for the second question to determine the interaction between the independent variable ,

The purpose of this study was to assess the knowledge of forensic nursing among registered nursing college students who study nursing and midwifery in Palestinian universities in the southern area in Palestine. A comparison was done between correctly answered questionnaire items related to age , gender, study major, universities and place of residence of the participants. The study started with 125 students, including 40 males and 85 females. The final analysis was conducted with 108 participants comprising 34 (31.5%)

males and 74 (68.5%) females. Seventeen participants were excluded from the final analyses, 6 males and 11 females, because of withdrawal.

Sample Characteristics

Table (1-4-a) Socio-demographic characteristics of the participants (n = 108)

Characteristics	No. of respondents (n)	(%)
Age (years)		
20-22	83	76.8
23-25	19	17.6
26-28	6	5.6
Gender		
Male	34	31.5
Female	74	68.5
Place of residence		
Village	52	48.1
City	48	44.4
Camp	8	7.5

Table (1-4-a) presents the demographic characteristics of the students. Students who participated in the study ranged in age from 20 years to 28 years of age respectively. Of the 108 participants, 83 (76.8%) were age 20-22, 19 (17.6%) were age 23-25, and 6 (5.6%) were age 26-28. From the total respondents there were 34 (31.5%) males and 74 (68.5%) females in addition to 52 (48.1%) were village residences, 48 (44.4%) were city residences, and finally 8 (7.5%) were residence of camp.

Table (1-4-b) Socio-demographic characteristics of the participants (n = 108)

Characteristics	No. of respondents (n)	(%)
Study major		
Nursing	86	79.6
Midwifery	22	20.4
Universities		
Al-Quds university	50	46.3
Bethlehem university	30	27.8
Hebron university	28	25.9

The majority of the participant's current area of study was nursing 86 (79.6%), and midwifery 22 (20.4%) .Table (1-4-b) pointed that around 50 (46.3%) students were from Alquds University followed by 30 (27.8%) from Bethlehem University and 28 (25.9%)from Hebron University who are only normal nursing students. From Alquds University there were 38 normal nursing and 12 midwives student. From Bethlehem, the ratio was 2:1 for nursing students to mid-wife's students.

Major Findings

The intent of this study was to determine level of knowledge regarding forensic nursing among registered nursing college students. The questionnaires used in this study consisted of 50 multiple choice questions regarding nursing students' knowledge regarding forensic nursing.

Table (2-4a) Level of knowledge scores by socio-demographic data (n=108)

Characteristics	Number of respondents	Correct answers (%) by demographic variables	Knowledge level
			(excellent, very good, good, weak)
Age (years)			
20-22	83	41.3%	weak
23-25	19	37.7%	weak
26-28	6	42.7%	weak
Gender			
Male	34	34.7%	weak
Female	74	43.5%	weak
Place of residence			
City	48	41.5%	weak
Village	52	39.3%	weak
Camp	8	44.8%	weak

Age : age was categorized into ranges as shown in the table (2-4a). Correct and incorrect answers for the 50 items of forensic nursing were computed to determine level of students'

knowledge. The researcher consulted the panel of experts to determine the categories of health knowledge levels (i.e., excellent, very good, good, weak). The results indicated that the percentages of correct answers in forensic nursing for all students were less than 50% and almost the same for all students despite their demographic data (age-group, study major, place of residence and gender). The highest percentage of correct answers were 42.7% for students in the (26-28) age- group interval, whereas the lowest percentage of correct answers were 37.7% for students in the (23-25) age-group interval.

Gender: Female had a high percentage of correct answers was 43.5% than male 34.7%

Place of residence: It reveals that students who live in camps are more knowledgeable because they got the highest percentage which is 44.8% , then the students who live in cities got 41.5% .The lowest percentage were the students who live in villages 39.3%

Table (2-4b) Level of knowledge scores by socio-demographic data (n=108)

Characteristics	Number of respondents	Correct answers (%) by demographic variables	Knowledge level
			(excellent, very good, good, weak)
Study major			
Nursing	86	39.7%	weak
Midwifery	22	44.5%	weak
Universities			
Al-Quds university	50	36.7%	weak
Bethlehem university	30	46.2%	weak
Hebron university	28	42.1%	weak
General forensic knowledge	108	40.7%	weak

Study major :Nursing students got 39.7% in the test of their knowledge correct scores while mid-wives students got 44.5% correct scores as displayed in table (2-4b) .

University : The level of forensic knowledge among all nursing students in the three universities as displayed in the table (2-4b) were 40.7 % . For Alquds university the level of knowledge in forensic nursing was 36.72%. For Bethlehem university the level of knowledge in forensic nursing was 46.2% . For Hebron university the level of knowledge in forensic nursing was 42.1% .The total percentage of the level of knowledge is analyzed and display that just 40.7% was the level of knowledge of 4th year nursing students in forensic nursing .

An independent Samples t- test and analysis of variance (ANOVA) are both parametric tests was used to test a significant difference between group means, whereas ANOVA is used when there are more than two groups , t-test compute the mean and standard deviation (SD) scores of students in forensic nursing areas as related to their gender, place of residence (city, village, camp), and education major also compares the means between two unrelated groups on the same continuous, dependent variable.

Table(3-4) : Mean knowledge scores of the nursing and midwifery students according to gender (n = 108)

Health area	Gender	Mean knowledge (SD)	t statistics (df)	Mean difference	P value
Forensic Nursing	Male (34)	17.35 (7.87)	-2.955	-4.38	0.005
	Female (74)	21.73 (5.25)	(46.991)		

Independent *t* test
SD = standard deviation
df = degree of freedom

In table (3-4) the first t-test was done to compute the mean and Standard deviation of nursing students as per gender. The t-test tests the null hypothesis that the mean of the scores for male equals the mean of females scores versus the alternative hypothesis that the mean

of males scores is not equal to the mean of females scores .The mean average scores of males nursing students is 17.35 (M) and S.D is 7.86. Compared to this, the mean scores of female nursing students was 21.72 and the standard deviation is 5.25. The significance level is 0.005 which was below than 0.05 , so we reject the null hypothesis and this concludes that there is statistical significance difference between the mean scores of males and females. The difference is not merely due to chance. Thus it seems that statistically, the mean average of knowledge scores for females is more than males that means female are more knowledgeable than males .

T-test for type of Study major :

Table (4-4) Mean knowledge scores of the nursing and midwifery students according to study major (n = 108)

Health area	Study major	Mean knowledge (SD)	t statistics (df)	Mean difference	P value
Forensic nursing	nursing (86)	19.87 (6.83)	-1.93	-2.36	0.060
	midwives (22)	22.23 (4.58)	(47.91)		

Independent *t* test
SD = standard deviation
df = degree of freedom

The second t-test was done to compute the mean and Standard deviation of students as per the education major. The t-test tests the null hypothesis that the mean of the scores for nursing equals the mean of midwives scores versus the alternative hypothesis that the mean of nursing scores is not equal to the mean of midwives scores The mean average scores of general nursing students was 19.8 and S.D is 6.8. Compared to this, the mean scores of midwife nursing students was 22.23 and the standard deviation is 4.58 as shown in table (4-4).

The significance level is 0.06 which was above the alpha value of 0.05 so we accept the null hypothesis and this concludes that there is no statistical significance difference from zero between the mean scores of normal nursing and midwives so the meanscores of the knowledge level of the fourth year nursing students did not affected by the education major

ANOVAs tests:

ANOVA for Place of Residence and University :

Table (5-4) : One way ANOVA f-statistics analysis for the scores according to place of residence

Standard	Source of variation	Sum of squares	D.f	Mean squares	F statistics	P value
Place of residence	Between groups	66.506	2	33.253	0.787	0.458
	Within groups	4436.123	105	42.249		
	Total	4502.630	107			

One-way ANOVA

ANOVA test for the place of residence :

This table (5-4) shows the output of the ANOVA analysis and whether there is a statistically significant difference between group means. We can see that the significance value is 0.458, which is above 0.05. and, therefore, there is a statistically no significant difference in the mean between the different place of residence. This is great to know, but we do not know which of the specific groups differed. Luckily, we can find this out in the MultipleComparisons table which contains the results of the Tukey multiple comparison post hoc test to see which of all place of residence scores are different.

Table (6-4) : Tukey Multiple Comparisons Tests

Multiple Comparisons				
Dependent Variable: Total _ Sum				
Tukey HSD				
(I) place of residence	(J) place of residence	Mean Difference (I-J)	Std. Error	P value
City	village	1.11699	1.30102	.668
	camp	-1.60417	2.48219	.795
Village	City	-1.11699	1.30102	.668
	camp	-2.72115	2.46852	.515
Camp	City	1.60417	2.48219	.795
	village	2.72115	2.46852	.515

The Tukey post hoc test is generally the preferred test for conducting post hoc tests on a one-way ANOVA, but there are many others. We can see from the table above that there is no statistically significant difference mean knowledge between the group of city and village residence that ($p = 0.668$), as well as between the camp and city residence ($p = 0.795$). However, there were no differences between the groups of village and camp residence ($p = 0.515$). Thus the mean score of any two places are equal so the place of residence of the students did not affect the level of their knowledge in forensic nursing .

Table (7-4) : One way ANOVA f-statistics analysis for the scores according to university

Standard	Source of variation	Sum of squares	D.f	Mean squares	F statistics	P value
University	Between groups	458.529	2	229.264	5.953	0.004
	Within groups	4044.101	105	38.515		
	Total	4502.630	107			

One-way ANOVA

ANOVA test for University:As per the ANOVA test, the significance score is 0.004 as in table (7-4). This score is below the alpha value of 0.05. Therefore there is statistically significant difference between mean score of students from each University. This can be further verified by the Tukey multiple comparison test below to see that all universities scores are different.

Table (8-4) : Tukey multiple comparison test for the three university

Multiple Comparisons				
Dependent Variable: Total _ Sum				
Tukey HSD				
(I) Three universities	(J) Three universities	Mean Difference (I-J)	Std. Error	Sig.
Alquds university	Bethlehem university	-4.90667*	1.43323	.003
	Hebron university	-2.42571	1.46487	.227
Bethlehem university	Alquds university	4.90667*	1.43323	.003
	Hebron university	2.48095	1.63076	.285
Hebron university	Alquds university	2.42571	1.46487	.227
	Bethlehem university	-2.48095	1.63076	.285

*. The mean difference is significant at the 0.05 level.

For Alquds University and Bethlehem University, the significance level is 0.003. Thus the mean difference is significant at 0.05 ,so these two scores are significantly different , the students who study in Alqudsand Bethlehem university have interaction of their mean knowledge level .

Three-way ANOVA:

The primary goal of running a three-way ANOVA is to determine whether there is a three-way interaction between your three independent variables .A three-way ANOVA utilized to compute mean and standard deviation (SD) scores to answer the second question, "Are there a significant interaction in mean knowledge scores of forensic nursing among fourth year

nursing students at Al Quds University, Bethlehem University and Hebron University during the academic year 2015/2016 based on university , gender, and place of residence?

Table (9-4): Tests of Between-Subjects Effects

Tests of Between-Subjects Effects					
Dependent Variable: Total _ Sum					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Gender	68.610	1	68.610	1.834	0.179
Place_of_Residence	37.890	2	18.945	.507	0.604
University	345.859	2	172.929	4.624	0.012
Gender * Place_of_Residence	.667	1	.667	.018	0.894
Gender * University	66.860	2	33.430	.894	0.413
Place_of_Residence * University	169.629	3	56.543	1.512	0.217
Gender * Place_of_Residence * University	93.678	2	46.839	1.252	0.291
Total	49236.000	108			
a. R Squared = .219 (Adjusted R Squared = .111)					

The significance level was 0.291 for University, gender and place of residence as mentioned in table (9-4). Thus there is no significant interaction in mean knowledge scores of forensic nursing among fourth year nursing students at Al Quds University, Bethlehem University and Hebron University during the academic year 2015/2016 based on university , gender, and place of residence .

CHAPTER FIVE

Discussion

Introduction

This chapter discussed the study results in the light of forensic nursing , participants' knowledge of forensic nursing correlated with socio demographic data. This is an attempt to utilize these findings, by implication, in the current nursing curricula to increase the quality of nursing education and reform others. The finding begin with socio-demographic data first. In the second part of discussion, the researcher focuses on correlation between the independent variables and the participants' knowledge as dependent variables.

The study investigated the forensic nursing knowledge of the fourth year nursing students in the three Southern universities in west bank. The respondents were asked to respond to questions that were challenging to them to reveal if they were aware that nursing science, forensic science and criminal justice are interrelated disciplines.

Forensic nursing is a complicated profession thus it is necessary for the nurses not only to be competent in his or her job literally but also they should have these extra human sentiments with them. A negative or positive perspective can be seen as one of the key way a nurse is motivated to perform. Now, with such perspective the issues widens if the knowelge of nurse is not poor.

In this study, the researcher targeted the whole population; the total number of respondents was 108 distributed among three universities: Al-Quds University 50 respondents (46.3%) Bethlehem University 30 respondents (27.8%), Hebron University 28 respondents (25.9%). The study findings revealed a variation among the study in the three universities in relation to number of the participants and comparison with the differences among the nursing

students knowledge in forensic nursing concerning changing in the standards for nursing education program.

The research has fairly succeeded in answering both of research questions. The study results revealed that, the percentages of correct answers of mean knowledge in forensic nursing for students from all universities were less than 50%, quite homogeneous, and almost the same for all universities. The Highest percent of correct answer came from Bethlehem University. But merely (46.2 %) of the students could give correct answers. Hebron University scored (42.1 %) correct answer and Al-Quds University only scored (36.7%) correct answers. From ANOVA it is clear that Al-Quds is not equal to other universities and from the percent of correct answers , it is clear that Al-Quds university is the lowest level of forensic nursing knowledge . The other two universities have difference in the correct answers merely due to chance as the ANOVA scores suggest that their knowledge is similar. However the overall score suggest that forensic nursing knowledge of students in all of the three universities is quite low due to this result the departments of each university should take forensic nursing programs as a challenge through developing stronger programs to ensure much knowledgeable nurses in forensic discipline .

The research results as studied in the previous section have been able to shed light on the problems which concluded that there is difference in the mean knowledge of forensic nursing among fourth year students at Al-Quds University, Bethlehem University, and Hebron University, during the academic year 2015/2016, in Palestine. The results as shown in table (7-4) points that the significant value ($0.004 < 0.05$) and thus there is a clear difference of mean knowledge between the universities. This means that the people in at least one of the universities have mean knowledge different than the other universities' students.

The second question of the research was also studied in the quantitative findings. The main finding was that with a score of 0.291 ($0.291 > 0.05$) there is no significant interaction mean knowledge scores of forensic nursing among fourth year nursing students at Al Quds University, Bethlehem University and Hebron University during the academic year 2015/2016 based on university, gender, and place of residence.

This means that the place of residence, gender and university together did not affect the knowledge of the students. The effect of these variable in knowledge level did not hold when these students are further associated with gender and place of residence. This is due to the reason that all the three places of residences have the equal score and thus the place of residence did not play any role in the knowledge of the students.

Thus the researcher concluded that the forensic knowledge of students were very poor in all the three universities and needs to improve their education system to improve the overall knowledge which is further diminishing in Al-Quds university. The knowledge was not dependent on the residence of students as village; city and camps or as related to gender .

The results of this study show that nursing students were not carrying out the tasks related to the collection and preservation of forensic evidence. Most of the respondents had indicated that they hadn't any information regarding these tasks e.g. to collect, package and preserve physical trace evidence from a trauma victim/suspect. Most respondents also indicated that they could not identify the gunshot wounds fired from close range to those fired at a distance. The respondents have never been exposed to the collection of evidence from sexual assault victim/suspect .Knowledge was displayed regarding recovering of bullets from trauma victims, but there are breaks in a chain of custody if the police do not collect the recovered bullets. The respondents agreed that these tasks were very important to their practice in the ED. Most of the respondents had acknowledged that they were often capable

of identifying the signs of abuse, physical or emotional. The respondents remarked that they were weak in differentiating between animal and human bite wounds.

McCracken (2002), Wick (2000), and Lynch (1995) clarify that human bite wounds are used to recover DNA samples and also indicated that gunpowder residue on victims' clothing or by the wounds or by fingernails would confirm the distance at which the shot was fired. It also assists to exclude self inflicted trauma.

Most of the respondents responded negatively towards accurate documentation of events. They even indicated that the medical doctors in their institution did document wounds. But there is a concern with these results. The respondents might be referring to ordinary documentation not specifically related to the documentation of events involving the forensic patients due to a lack of education and expertise. For example, the forensic nurse's roles include the following: accurate documentation of the circumstances surrounding the victim; the trauma and the interaction between the patient and family members; accurate documentation for investigative purposes and legal protection and to act as a liaison in forensic matters. (Duma, 2004), described the importance of forensic documentation.

Regarding the poor knowledge of forensic nursing , nurses will encounter patients whose needs intersect with the legal system, e.g. forensic patient population. Ignoring this patient population is no longer an option and may lead to legal repercussions and sanctions . In order to provide competent care to this patient population, nurses can benefit from receiving forensic science education, regardless of teaching modality chosen.

Nursing faculty can respond to this need by providing education specific to the proper recognition of this population of patients, along with teaching the basic concepts of evidence recognition, collection, preservation and documentation .

Conclusions

From the results of this study, the researcher was able to conclude that the respondents' fourth year nursing students had not identified the importance of forensic role behaviors towards their role in the hospitals, because they are lack of knowledge, information and training of how to deal with forensic cases.

Regardless of the setting, nurses will encounter patients whose needs intersect with the legal system, e.g. forensic patient population. Ignoring this patient population is no longer an option – violence and trauma are of increasing concern of healthcare systems. In order to provide competent care to this patient population, nurses can benefit from receiving forensic science education, regardless of teaching modality chosen.

Nursing faculty can respond to this need by providing education specific to the proper recognition of this population of patients, along with teaching the basic concepts of evidence recognition, collection, preservation and documentation. Ensuring education specific to the forensic population as foundational to nursing practice ensures forensic patients are afforded an adequate long-term outcome. Failure to do so can potentially impact outcomes beyond that of the physical needs of the forensic patient .

With the increasing rate of violence, motor vehicle collisions, trauma and sexual assault trauma, the nursing students are facing the new challenges of acquiring the new skills to effectively care for forensic patients and to avoid legal repercussion and sanctions . The nursing students' role is increasing with the new responsibilities and duties to include in her/his daily activities. forensic nursing should be recognized as essential to improve the conviction of criminals and to protect the victims of trauma and the innocence.

The students became awareness that forensic specialty became known, students began to ask for courses in the area and wanted to know how they could become a forensic nurse? As

forensic nursing rapidly appeared in curriculums of many leading colleges and universities around the turn of the 21st century .

Findings of this study may assist students, practitioners, administrators, and educators to further understand this emerging specialty. Nurse educators have contributed to the construction of the forensic nursing specialty that is emerging worldwide. The finding from the analysis of the descriptive statistics was the significance of the educators who were driven and felt a mission to either pioneer a forensic nursing role, and/or develop some of the first forensic nursing educational courses.

Recommendations

1. Revise knowledge exam items that proved to be problematic on item analysis and retest for reliability.
2. Use instructors with experience in forensic nursing to evaluate student performance and provide detailed training in rating student proficiency in concept application.
3. The researcher would recommend further research to be conducted, which would have a larger sample size to further explore whether or not the nursing students were aware of their duties and responsibilities with regard to preservation of forensic evidence, and to support findings of this study.
4. It would be interesting to conduct a study that includes the qualitative aspect .
5. Identification of changes needed in nursing education.

Consent form

Assessment of the knowledge of fourth year nursing students toward forensic nursing

Dear Student,

The attached survey will be distributed to 4th year nursing students who care or treat various patients in hospitals.

The aim of the study is to assess forensic nursing knowledge among fourth year nursing students at AlQuds University, Bethlehem University and Hebron University which may affect their competency level when dealing with forensic cases. All information will be presented in summary form and no individual will be identified.

Completion of this survey is voluntary and will take about fifteen minutes. Thank you for your cooperation. .

agree to complete this survey

do not agree to complete this survey

By filling in this questionnaire I consent voluntarily to complete this survey and understand that the survey is intended for research purposes.

Questionnaires

Part [1] General Information about You :

Age :

Gender :

- Male
- Female

Place of Residence :

- City
- Village
- Camp

Education Major

- Nursing
- Midwife

University

- Alquds University
- Bethlehem University
- Hebron University

Part [2] Nursing Forensic Science Knowledge Exam

Directions: Questions 1 - 50 are multiple choice. Only one answer is correct.

1. Which of the following statements give an indication of the inherent knowledge that a nurse possesses with relation to interpersonal violence?
 - a. "Do not go back to the situation, you could be killed!"
 - b. "Separate yourself from the situation before it gets worse"
 - c. "You have the power to take a decision and change the situation"
 - d. "You can ensure safety by following this particular guideline"
2. Which definition comes closest to explaining the practice of forensic nursing?
 - a. A practice which connects both the science of nursing as well as criminal justice into one discipline
 - b. A combination between the judicial system and medical system
 - c. The culmination of the practices of forensic investigation and justice systems into the avenue of nursing
 - d. The art of criminal justice which is embodied through forensic science
3. Which types of cases actually qualify to be looked into by a forensic nurse?
 - a. Prisoners
 - b. Victims of interpersonal violence
 - c. Families that are upset about the quality of care given
 - d. Geriatric care
4. If in a real-life clinical situation, a patient with severely bruised limbs as well as lacerations is brought into the clinic, with swollen face and arms and severe

contusions on her neck and fingers. It is also revealed that she was attacked by a heavily built oppressor. What areas of her anatomy would you check first to garner evidence about the case?

- a. Neck
 - b. Hands
 - c. Face
 - d. **Genitals**
5. What is the diagnostic characteristic of a laceration, as may be sustained in a motor vehicle crash?
- a. **Bridging tissue**
 - b. Depth greater than width
 - c. Soot deposits
 - d. Denaturation of skin proteins around the wound
6. Which patient finding requires the nurse to report suspicion of abuse or neglect?
- a. Bilateral contusions of the patella
 - b. **Unexplained injuries**
 - c. Anterior rib fractures status post CPR
 - d. Hip fracture from a reported trip and fall
7. What should a nurse do with the bloody clothing of a trauma patient?
- a. Place clothing in a bag and save it for the family
 - b. Secure clothing in a plastic evidence bag
 - c. Dispose of clothing in a biohazard bag
 - d. **Secure clothing in a paper evidence bag**
8. For what patient is collection of touch DNA likely to be important?
- a. Motor vehicle crash
 - b. Gunshot wound
 - c. Drowning
 - d. **Manual asphyxiation**
9. When caring for a patient who is dying from a prescription drug overdose what nursing action is **most** important to take to preserve toxicology evidence?
- a. Collect additional blood and urine specimens
 - b. Collect hair samples with roots intact
 - c. Notify law enforcement of overdose and request assistance
 - d. **Ensure first obtained biological specimens are maintained in the lab**
10. _____ is recognized as the global practice of nursing where healthcare and the legal system intersect.
- a. Forensic science
 - b. Forensic pathology
 - c. Forensic death investigation
 - d. **Forensic nursing**
11. Patients who have suffered a violent trauma are at risk for:
- a. Vicarious trauma

- b. Post-traumatic stress disorder
 - c. Continuous victimization
 - d. Schizophrenia
12. When assessing the gunshot wound of an apparent suicide, which finding should raise suspicions about the circumstances of the death?
- a. Abraded circular wound with soot deposits of the occipital scalp
 - b. Soot on palmar aspects of dominant hand
 - c. Hand gun found 8 feet away from body
 - d. No suicide note on the scene
13. With which statement should the nurse start when informing the next-of-kin of a family members' death?
- a. "Your daughter was killed today."
 - b. "I have some difficult news to bring you."
 - c. "Is there anyone else in the house to be with you?"
 - d. "I am sorry to tell you that...."
14. Which statement indicates that the nurse understands the social complexity and dangers associated with interpersonal violence?
- a. "Why did you go back? Next time you could be dead."
 - b. "Leave the situation or it will happen again and only get worse."
 - c. "Only you can make the decision whether and when to leave."
 - d. "Here is a guideline for a safety plan, when you are ready to leave."
15. A wound on the lower left quadrant of the abdomen is circular with abraded edges surrounded by black substance. As the consulting forensic nurse what action should you do **first**?
- a. Obtain vital signs
 - b. Take photograph of wound
 - c. Collect clothing for evidence
 - d. Obtain swabs of black substance
16. A forensic nurse is a member of the interprofessional mortality committee for violence. Which data is the most beneficial for the forensic nurse to prevent violence?
- a. Victim demographics
 - b. Types of injuries victims received
 - c. Perpetrators characteristics
 - d. Services sought prior to death
17. What information is the forensic nurse permitted to state as an expert witness in court?
- a. Condition of patient, evidence collected, and opinion of what findings reveal
 - b. Condition of patient, rationale for medical procedures, theory of perpetrator actions
 - c. Assessment findings, condition of patient, procedures taken to test evidence
 - d. Opinion of findings, interpretation of evidence analysis, assessment findings

18. Which statement indicates that a nurse understands the various components of forensic nursing theory as it relates to practice? Forensic nursing _____
- “practice inter-relates nursing science with forensic science, and criminal justice.”
 - “combines the art and science of forensic science to court proceedings.”
 - “takes the best practices of forensic science and criminal justice system and incorporates these roles into nursing.”
 - “is the art of the criminal justice system which includes forensic science practices.”
19. A patient with metastatic melanoma presents via EMS unresponsive to the emergency department. A CT scan of the head demonstrates an acute subdural hematoma. The patient dies within 36 hours of admission to the hospital. Family reports no history of acute or chronic trauma. No abuse or neglect are reported. What key data requires the nurse to report this death to the medical examiner’s office?
- Unexplained etiology of metastatic melanoma
 - Unexplained subdural hematoma
 - Death occurred within 36 hours after admission
 - Patient unable to provide details about medical history
20. Two 20 – 30 year old females die on the scene of a motor vehicle crash and one is taken to the hospital. As the forensic nurse which form of identification will you utilize?
- Photo identification comparison
 - Fingerprint comparison
 - DNA comparison
 - Visual identification with close family or friend
21. Which statement indicates the forensic nurse understands correct procedures for collecting and preserving evidence.
- Use rubber tipped forceps to collect a projectile and place the projectile into an envelope
 - Cut blood soaked clothing to preserve tire impressions and place into a plastic bag for transportation
 - Collect saliva swabs and place into plastic bag for transportation
 - Place several non-labeled blood filled vials into one labeled bag for transport
22. At what angle does the forensic nurse take overall photographs of the body?
- 90 degrees
 - 60 degrees
 - 45 degrees
 - 110 degrees
23. The family requests an autopsy to determine cause of death but the patient’s death is not reportable to the medico-legal death investigation agency. What statement implies the nurse understands what options are available to the family:
- “We can call the medical examiner and let them know you are requesting an autopsy.”

- b. “A clinical autopsy can be arranged through the hospital; however, we will need to have your consent to proceed.”
 - c. “We do not have autopsy services available but you can arrange to pay for a private autopsy.”
 - d. “I understand your wishes; however, there really is no reason for an autopsy. The medical diagnosis will serve as the cause of death.”
24. A forensic nurse is aware that without obtaining patient consent for forensic evidence collection or photo documentation, the type of lawsuit would be:
- a. Criminal action
 - b. Civil – negligence or non-intentional tort action
 - c. Civil – liability action
 - d. Civil – intentional tort action
25. Which information is **most** important for the nurse to provide to a patient involved in intimate partner violence?
- a. Resources of how to develop a safety plan
 - b. Contact information for shelters
 - c. Police incident number after reporting the crime
 - d. Discharge instructions about when to return to hospital
26. A patient admitted with a traumatic hip fracture develops pneumonia and acute renal failure and dies 45 days later. Should this death be reported to the medico-legal death investigation agency?
- a. Yes
 - b. No
27. While establishing an airway of an unresponsive patient, a large bolus of food is removed from the trachea. One week later the patient dies from anoxic encephalopathy. Medical history includes CHF, HTN, and diabetes. Is the patient’s death reportable to the medico-legal death investigation agency?
- a. Yes
 - b. No
28. A 56-year old patient with history of HTN is admitted to the ICU with diagnosis of myocardial infarction. Urinary drug screen tested positive for cocaine. The patient dies 5 days later after three cardiac codes. Is this death reportable to the medico-legal death investigation agency?
- a. Yes
 - b. No
29. The forensic nurse knows that the following instruments can create sharp force injuries:
- a. Baseball bat
 - b. Edge of paper
 - c. Electrical cord
 - d. None of the above
30. Which instruments can create blunt force injuries?

- a. Electrical cord
- b. Broken glass
- d. Paper
- e. Sledge hammer

31. A pedestrian was hit by a car that fled the scene. The nurse collects the patient's clothing to preserve which possible evidence?

- a. Pattern impressions
- b. Stomach contents
- d. DNA
- e. Soot deposits

32. Why is the chain of custody form important?

- a. Provide trace evidence
- b. Provides information about who had contact with the evidence
- d. Serves as significant documentation to use if evidence is left unsecured
- e. Serves as a process for managing law enforcement workloads

33. When conducting a forensic examination, which component(s) is /are performed in addition to the nursing assessment?

- a. Focused assessment
- b. Focused review of systems interview
- c. Photography and body diagrams
- d. Performing minor autopsy

34. A patient is admitted to the emergency department with lacerations, bruising and swelling of her face, arms and thighs, and contusions consistent with finger marks of the neck. The patient recounts that she attempted to fight back but the attacker was too big. It is a priority to collect forensic evidence from which anatomical area?

- a. Head
- b. Face
- c. Lower limb
- d. Neck

35. The forensic nurse consults which members of the forensic team for scientific identification of remains?

- a. Forensic epidemiologist
- b. Forensic entomology
- c. Forensic photography
- d. Forensic anthropology

36. When caring for a patient who has suffered from a violent attack, which information must the nurse document in the chart?

- a. Specific location and name of services offered
- b. Legal authorities notified
- c. Family members contacted
- d. Vital signs

37. An obese 45-year-old male is found dead at home with an ambient temperature of 76 degrees F. He was last seen alive one week prior to discovery. When assessing the body, what findings should the nurse would expect?

- a. Fly activity with maggots
- b. Fixed lividity
- c. Skin discoloration of abdomen
- d. No insect activity

38. The forensic nurse obtains consent for clinical forensic photography. Which procedures are important to follow?

- a. Provide a copy of photos for medical records and family
- b. Provide a copy of photos for law enforcement
- c. Take close up photos of wounds without a ruler
- d. Include photo of case number identification number and date

39. An elderly patient with history of non-treated heart failure was admitted for pneumonia. The patient has multiple contusions in various stages of healing across the abdomen and back, rib fractures, and several linear scars on bilateral lower extremities. Which findings indicate that the nurse should consider further investigation of physical abuse?

- a. Abdominal bloating
- b. Pneumonia
- c. Multiple contusions in areas difficult to explain
- d. Lack of medical attention

40. Which statement indicates that the nurse understands application of the forensic nursing process when caring for a trauma patient? “My plan is to....

- a. “obtain patient consent for detailed injury assessment and make sure tangible evidence is collected.”
- b. “develop a plan of care with the patient and contact the police for further direction.”
- c. “assess the patient and provide a list of referrals for follow-up care and community outreach programs.”
- d. “contact the police and contact the physician for treatment orders.”

41. A student nurse provides community education on the topic of interpersonal violence (IPV). The understanding of risk factors for IPV is mastered when which of the following are included in the presentation?

- a. Assertive communication
- b. Poly-substance abuse
- c. Sharing of household chores
- d. Interpersonal relationship

42. The nurse assesses a 37-year-old disabled client brought to the emergency department with a rash. Which of the following findings indicate that adult protective services (APS) should be contacted?

- a. Forehead abraded contusion, and long nails
- b. Dirty, foul smelling, and flea bites
- c. Loose fitting clothes, and forehead contusion

- d. Forehead contusion, and long nails
43. When asked to collect forensic evidence of an unconscious patient, what is **most** important for the forensic nurse to ensure regarding the process
- Availability of a clean room with adequate supplies
 - An organizational policy detailing forensic evidence collection of the unconscious is available**
 - Chain of custody is maintained during the collection of evidence
 - The nurse collecting the evidence has appropriate education in the collection of forensic evidence
44. When preparing for an injury assessment and evidence collection, the nurse should inform the patient that:
- The victim should place all clothing in a bag
 - Documentation of findings will be given to law enforcement
 - Patient may refuse any part of the forensic examination**
 - Testimony expectations for victims of violence
45. For several years , a nurse has been working in the subspecialty field of forensic nursing . In this field , the nurse should recognize which current trend ?
- A decrease in violent crime has resulted in a decreased need for forensic nurses
 - Medical examiners prefer to employ forensic nurses because of their medical back-ground.
 - With increasing numbers of violent crimes, forensic nurses are in greater demand than ever.**
 - Forensic nurses make up a dwindling subspecialty.
46. An 18-year-old client is admitted to an emergency department reporting that she has just been raped. On physical assessment, a nurse notices no trauma to the genital region. What information would influence the forensic nurse's evaluation of this assessment data?
- Between 60% and 80% of confirmed rapes show genital trauma.
 - Inconsistency of verbalized reports and collected evidence suggests deception.
 - Lack of genital trauma indicates consensual sex.
 - Between 40% and 60% of sexual assaults leave no visible injuries**
47. A forensic nurse collects a semen sample from a rape victim. Which nursing action would maintain the proper chain of evidence?
- A collected sample is labeled, sealed, and kept in a locked refrigerator until given to police.**
 - The sample is locked in a special container and given to the pathologist.
 - The sample is placed in the medication room refrigerator prior to police collection.
 - The sample is sealed and immediately given to police to avoid contamination.
48. Rape victim is concerned about becoming pregnant. Which is the most appropriate intervention by the nurse practitioner?

- a. Refer the client to an abortion clinic.
- b. Refer the client to a spiritual counselor.**
- c. Offer ethinyl estradiol/norgestrel (Ovral).
- D. Instruct the client to douche daily for 1 week.

49. Why is it important for the forensic nurse to maintain a proper chain of evidence?
- a. Maintaining a proper chain of evidence will exonerate the perpetrator.
 - b. Maintaining a proper chain of evidence will assist in gathering enough data for conviction.
 - c. All evidence, if properly maintained, will convict the assailant.
 - d. Crime data maintained with a proper chain of evidence can be used in a court of law.**

50. Circular defect with a concentric circumferential marginal abrasion with searing of the edges, and a 0.3 cm rim of soot deposition of the right temporal area, 1cm above and 1 cm posterior to the helix. Soot is present in the wound path.

- a. Blunt force trauma
- b. Sharp force trauma
- c. Thermal trauma
- d. Gunshot wound**

THE END



جامعة القدس Al-Quds University

كلية الدراسات العليا

التخصص : ادارة التمريض

"استبانته"

عزيزي الطالب،

سيتم توزيع المسح المرفق على طلاب التمريض سنة رابعة في جامعة القدس وجامعة بيت لحم وجامعة الخليل الذين يقدمون العناية الصحية لمختلف المرضى في مستشفيات فلسطين .

الهدف من هذه الدراسة هو تقييم معرفة هؤلاء الطلبة بالتمريض الشرعي والتي ممكن ان تؤثر على مستوى كفاءتهم عند التعامل مع حالات الطب الشرعي.

الاجابة على هذا المسح طوعية دون ذكر اسم أي طالب ، وسوف تستغرق حوالي ثلاثون دقيقة. نشكرك على حسن تعاونك مؤكدا لك بان المعلومات التي ستقدمها لنا لا تستخدم إلا لأغراض البحث العلمي فقط .

نعم أنا أوافق على إتمام هذا الاستطلاع

لا أنا لا أوافق على إتمام هذا الاستطلاع

بالإجابة على هذا الاستبيان أوافق طوعا على اكمال هذه الدراسة وأدرك أنها لأغراض البحث العلمي ولن يتم تعميم النتائج .

الباحث : اياد السويطي

المشرف : الدكتور فريد غريب

ملاحظه تتكون الاستبانة من قسمين:

- القسم الأول يتكون من معلومات شخصية عنك يرجى منك وضع الإشارة (x) أمام ما يناسب حالتك.
- القسم الثاني يتكون من 50 سؤال في التمريض الشرعي لجمع المعلومات حول موضوع الدراسة يرجى منك اختيار الاجابة الصحيحة لكل سؤال .

و شكرا لحسن تعاونكم

القسم الأول: المعلومات الشخصية

الجنس : ذكر أنثى

العمر :

مكان السكن : مدينة قرية مخيم

التخصص : تمييز قبالة

الجامعة : القدس بيت لحم الخليل

القسم الثاني ضع دائرة حول الاجابة الصحيحة

1. _____ يعرف بأنه العلم الذي يمثل العلاقة بين التمريض و القانون (وترتكز هذه العلاقة على ما

يحتاج إليه القانون من التمريض و ما يحتاج إليه التمريض من القانون)

ا. علم الطب الشرعي

ب. علم الامراض الشرعي

ج. تحريات البحث الجنائي

د. التمريض الشرعي

2. أي تعريف هو الأقرب لشرح ممارسة التمريض الشرعي؟

ا. الممارسة التي تربط كل من علم التمريض والعدالة الجنائية في منهج واحد

ب. مزيج بين النظام القضائي والنظام الطبي

ج. تنويع لممارسات انظمة التحقيق والعدالة الجنائية في مجال التمريض

د. فن العدالة الجنائية الذي يتجسد من خلال علوم الطب الشرعي

3. من مهام الممرض الشرعي :

أ. تقديم الرعاية الطبية لمرضى الايذاء الجسدي او النفسي

ب. تقديم الرعاية الطبية لمرتكبي الايذاء والعنف

ج. جمع الأدلة الجنائية والحفاظ على جودة ضمان العينات

د. توثيق الأدلة والشهادة بالمحكمة

ه. جميع ما ذكر أعلاه

4. ما هي العبارة التي تشير إلى أن الممرض يفهم مختلف مكونات نظرية التمريض الشرعي من حيث صلتها بالممارسة التمريض الشرعي-----

أ. "الممارسة التي تربط بين علم التمريض مع علوم الطب الشرعي، والعدالة الجنائية".

ب. "يجمع بين الفن والعلوم الشرعية لإجراءات المحكمة".

ج. "يأخذ أفضل ممارسات علوم الطب الشرعي ونظام العدالة الجنائية، ويدمج هذه الأدوار في التمريض".

د. "هو فن نظام العدالة الجنائية والذي يتضمن ممارسات علوم الطب الشرعي".

5. ما هي أنواع الحالات التي يمكن ان يتعامل معها ممرض الطب الشرعي؟

أ. السجناء

ب. ضحايا العنف بين الأفراد

ج. الأسر المستاءة من نوعية الرعاية الصحية المقدمة

د. العناية بكبار السن

6. الممرض الشرعي هو عضو لجنة الوفيات الناتجة عن العنف.اي البيانات التالية هي الأكثر فائدة للممرض الشرعي لمنع العنف؟

أ. الإحصائيات السكانية للضحايا

ب. أنواع الإصابات التي تلقاها الضحايا

ج. سلوكيات مرتكبي الجرائم

د. الاجراءات التي يمكن عملها لمنع العنف

7. الجرائم الجنسية التي ممكن ان تقع على المرأة، والتي قد يصعب أن نصنفها تحت عنوان العنف الجنسي المباشر، تشمل المضايقات والخداع الجنسي مثل

- ا. فض البكارة بالخداع بوعد الزواج (المادة 304 عقوبات)،
ب. الفعل المخل بالحياء (مادة 305 عقوبات) والذي يقع على جسم المجني عليها دون أن يبلغ من الفحش القدر الذي
قوم به هتك العرض،
ج. جريمة التعرض للأدب والأخلاق العامة (مادة 306 عقوبات) والتي تقع بمجرد عرض القيام بالفعل المنافي للحياء
أو مجرد توجيه كلام منافي للحياء.
د. جميع ما ذكر صحيح

8. أي عبارة تدل على أن الممرض/ة يفهم التعقيد الاجتماعي والمخاطر المرتبطة بالعنف بين الأشخاص؟

- ا. "لماذا ذهبت مرة أخرى؟ في المرة القادمة ممكن أن تموت".
ب. "غادر من الموقف والاسوف يحدث مرة أخرى ويزداد سوءا".
ج. "انت وحدك يمكنك اتخاذ القرار بالمغادرة وتوقيتها"
د. "اليك هذه التوجيهات لخطة آمنة ، عندما تصبح مستعدا للمغادرة."

9. بأي عبارة يجب أن يبدأ الممرض/ة عند إبلاغ احد الوالدين بوفاة أحد أفراد الأسرة؟

- ا. "قتلت ابنتك اليوم".
ب. "الذي بعض الأخبار الصعبة لك".
ج. "هل هناك أي شخص آخر في المنزل معك؟"
د. "أنا آسف ان اقول لكم ان"

10. في حالة سريره واقعيه أحضرت مريضة لقسم الطوارئ وبعد الفحص السريري تبين وجود كدمات وجروح
على اطرافها ، مع وجه متورم وكدمات حادة على رقبته والأصابع. وكشف أيضا أنها تعرضت للهجوم من قبل
معتدي ذو بنية كبيرة. ما هي اهم المناطق التي ستفحصها اولاً لجمع الأدلة حول هذه القضية؟

- ا. العنق
ب. الأيدي
ج. الوجه
د. الأعضاء التناسلية

11. ما هي السمة التشخيصية لجروح التمزق التي يمكن ان تثبت في حادث سير؟

(Bridging tissue ا. أنسجة مُجتسرة)

ب. عمق الجرح أكبر من العرض

(Soot ج. رواسب الرماد)

د. تكون بروتينات الجلد حول الجرح

12. ما هي المعلومات التي على الممرض أن يقدم بها تقريرا اذا اشتبه في تعرض المريض لسوء المعاملة أو الإهمال؟

ا. كدمات ثنائية على صابونة الركبة

ب. الإصابات غير المبررة

ج. كسر في الضلع الأمامي بعد عملية الانعاش القلبي

د. كسر في الورك نتيجة السقوط اثناء رحلة كما ذكر

13. ماذا على الممرض الشرعي فعله بالملابس الملطخة بدماء الشخص المصاب؟

ا. وضع الملابس في كيس لإعطائها لأهل المصاب

ب. يتحفظ على الملابس بوضعها في كيس بلاستيكي خاص بالأدلة

ج. يتخلص من الملابس في سلة المهملات

د. يتحفظ على الملابس في كيس ورقي خاص بالأدلة

مهما؟ DNA 14. لأي حالات يمكن ان يعتبر جمع عينة مسحية لفحص الحامض النووي

ا. حالات حوادث السير

ب. حالات الاصابة بطلق ناري

ج. حالات الاغتصاب

د. حالات الموت الفجائي

15. عند الاعتناء بمرضى يحتضر من جرعة دواء زائدة ، ما هو اهم عمل للممرض الشرعي الذي يجب عليه القيام به لحفظ ادلة التسمم ؟

- ا. جمع عينات اضافية من الدم والبول
- ب. جمع عينات من الشعر مع الجذور سليمة
- ج. ابلاغ الجهات القانونية عن جرعة زائدة وطلب المساعدة
- د. التحفظ على العينات البيولوجية الاولى التي تم جمعها في ثلاجة المختبر

16. المرضى الذين عاثوا من الصدمات العنيفة معرضون ل:

- ا. الصدمة الغير مباشرة
- ب. اضطراب ما بعد الصدمة
- ج. الإيذاء المستمر
- د. انفصام في الشخصية

17. عند تقييم جرح بطلق ناري من منتر على ما يبدو، ما هي نتيجة الكشف التي يجب ان تشير الشكوك حول ملابس الوفاة؟

- ا. جرح دائري متآكل مع رواسب السخام في فروة الرأس القذالية
- ب. السخام على المناطق المهيمنة من راحة اليد
- ج. العثور على مسدس بعيدا عن الجسم على مسافة 8 اقدام
- د. لا توجد رسالة انتحار في ساحة الجريمة

18. جرح في الربع السفلي الأيسر من البطن وهو دائري مع حواف متآكلة محاطة بمادة سوداء. بصفتك كمرض استشاري شرعي ما هو اول إجراء ينبغي عليك القيام به ؟

- ا. الحصول على العلامات الحيوية
- ب. أخذ صورة للجرح
- ج. جمع الملابس للأدلة
- د. الحصول على مسحات من المادة السوداء

19. ما هي المعلومات التي يسمح للممرض الشرعي أن يدلي بها كشاهد خبير في المحكمة؟

- ا. حالة المريض والأدلة التي تم جمعها، والبيئة الطبية
- ب. حالة المريض والمبررات للإجراءات الطبية، ونظرية سلوكيات الجاني
- ج. نتائج التقييم، حالة المريض، والإجراءات المتخذة لاختبار الأدلة
- د. الرأي الطبي بالنتيجة، وتفسير تحليل الأدلة، وفحص النتائج

20. احضر مريض بسرطان الجلد المنتشر الى المستشفى بحالة صعبة وفاقد الوعي حيث لم يستجيب للعلاج في قسم الطوارئ. تم عمل الاشعة المقطعية للرأس ودلت على ورم دموي حاد تحت الجافية. توفي المريض في غضون 36 ساعة من الدخول إلى المستشفى. الأسرة تبلغ انه ليس عندها تجربة للصدمات الحادة أو المزمنة. ولم يتم الإبلاغ عن أي إساءة أو إهمال. ما هي البيانات الرئيسية التي تتطلب من الممرض أن يبلغ عن هذه الوفاة إلى مكتب الطبيب الشرعي؟

- ا. المسببات غير المبررة لسرطان الجلد المنتشر
- ب. عد تفسير وجود ورم دموي تحت الجافية
- ج. حدثت الوفاة في غضون 36 ساعة بعد الإدخال
- د. المريض غير قادر على تقديم تفاصيل حول التاريخ الطبي

21. فتاة عمرها 30 عاماتوفيت نتيجة حادث سير حيث تم نقلها إلى المستشفى. كمرض شرعي في قسم الطوارئ اي شكل من اشكال التعريف سوف تستخدم لمعرفة هوية الفتاة؟

- ا. مقارنة الهوية من خلال الصورة
- ب. مقارنة بصمات الأصابع
- ج. مقارنة الحمض النووي
- د. التعرف على السمات الوجهية بواسطة أحد الاقرباء أو الاصدقاء

22. ما هي العبارة التي تدل على فهم الممرض الشرعي للإجراءات الصحيحة لجمع الأدلة وحفظها؟

- ا. استخدام ملقط مسنن لالتقاط شظايا قذيفة ما ووضعها في مغلف

ب. قص الملابس الملطخة بالدماء للحفاظ على آثار الإطارات ووضعها في كيس من البلاستيك لنقلها

ج. جمع مسحات اللعاب ووضعها في كيس من البلاستيك لنقلها

بدون طوابع في كيس واحد له طابع واحد للنقل vials. وضع عدة حاويات دم

23. ما هي زاوية التقاط الممرض الشرعي للصور العامة للجسم؟

ا. 90 درجة

ب. 60 درجة

ج. 45 درجة

د. 110 درجة

24. طالبت اسرة بتشريح جثة تعود لأحد أفرادها لتحديد سبب الوفاة، ولكن وفاة المريض لم يبلغ عنها للنيابة العامة.

أي من العبارات التالية تعبر عن فهم الممرض للخيارات المتاحة للأسرة:

ا. "يمكننا الاتصال بالطبيب الشرعي ونخبرهم برغبتكم في عمل التشريح ."

ب. "يمكن ترتيب التشريح السريري من خلال المستشفى. ومع ذلك، فإننا سوف تحتاج إلى موافقتكم على القيام بذلك ."

ج. " خدمات التشريح غير متاحة لدينا ولكن يمكننا اجراء ترتيبات لدفع ثمن التشريح الخاص".

د. "أنا أفهم رغبتكم. ومع ذلك، ليس هناك ما يستدعي حقا تشريح الجثة. فإن التشخيص الطبي يفسر سبب الوفاة

25. الممرض الشرعي يدرك أنه من دون الحصول على موافقة المريض لجمع الأدلة الجنائية أو الصورة التوثيقية ،

فإن نوع الدعوى التي تنسب اليه ستكون كما يلي:

ا. العمل الإجرامي

ب. الإهمال المدني أو الضرر غير المتعمد

ج. المسؤولية المدنية

د. الضرر المدني المتعمد

26. ما هي المعلومات الأكثر أهمية التي على الممرض الشرعي توفيرها لمصاب تعرض فيها لعنف من قبل الشريك الحميم؟

- معلومات عن كيفية تطوير خطة للسلامة
- معلومات للاتصال بالملاجئ (ضحايا العنف)
- رقم الشرطة للحوادث بعد الإبلاغ عن الجريمة
- تعليمات الخروج من المستشفى ومتى يجب العودة إلى المستشفى

27. تم إدخال مريض للمستشفى يعاني من كسر في الورك ، يتطور وضعه الى التهاب رئوي وفشل كلوي حاد ويموت بعد 45 يوما. هل يجب الإبلاغ عن هذه الوفاة للنيابة العامة ؟

- نعم
- لا

28. تمفتح مجرى التنفس لمريض في غيبوبة وإزالة جسم غريب من القصبه الهوائية. بعد أسبوع واحد يموت . ويتضمن التاريخ المرضي **anoxic encephalopathy** المريض بسبب ضرر بالدماغ نتيجة نقص الأكسجين ، ومرض السكري. هل يجب الإبلاغ عن هذه الوفاة للنيابة (HTN)، ارتفاع ضغط الدم (CHF) للمريض قصور في القلب العامة ؟

- نعم
- لا

29. ادخل مريض مسن يبلغ 56 عاما معروف بانه يعاني من ارتفاع في ضغط الدم إلى وحدة العناية المركزة (HTN). تم التحري عنمادة المخدرات في البول حيث اثبت **myocardial infarction** مع تشخيص احتشاء عضلة القلب تعاطيه مادة الكوكايين. المريض توفي بعد 5 أيام بعد اضطرابات في تخطيط القلب . هل يبلغ عن هذه الوفاة للنيابة العامة ؟

- نعم
- لا

30. ممرض الطب الشرعي يعرفان أحد الادوات التالية يمكن ان تسبب إصابات قوية وحادة:

- مسطرة بلاستيكية

- ب. حافة الورق
- ج. سلك كهربائي
- د. لا شيء مما سبق

31. احد الأدوات التالية ممكن أن تسبب إصابات بالرضوض ؟

- ا. سلك كهربائي
- ب. الزجاج المكسور
- د. ورقة
- ه. المطرقة

32. صدمت سيارة احد المشاة وفرت من مكان الحادث ، قام الممرض الشرعي بجمع ملابس المصاب للحفاظ على كل الأدلة الممكنة وأهمها؟

- ا. اثار نمط عجلات السيارة
- ب. محتويات المعدة
- د. الحمض النووي
- ه. رواسب السخام (الرواسب السوداء)

33. اهمية جودة ضمان العينة؟

- ا. توفير أدلة التتبع
- ب. توفير معلومات حول الاشخاص الذين تعاملوا مع الأدلة
- د. يكون بمثابة توثيق هام لاستخدامه إذا ما تُركت الأدلة غير مؤمنة
- ه. يكون بمثابة عملية لإدارة أعباء العمل القانونية

34. عند إجراء الفحص الطبي الشرعي، أي الاجراءات تتم بالإضافة إلى تقييم التمريض؟

- أ. تقييم دقيق ومركز (Focused assessment)

ب. مراجعة دقيقة ومركزة للمقابلات المنظمة (Focused review of systems interview)

ج. التصوير الفوتوغرافي والرسوم البيانية للجسم (Photography and body diagrams)

د. عمل تشريح بسيط للجثة (Performing minor autopsy)

35. ادخلت مريضة إلى قسم الطوارئ تعاني من جروح، وكدمات وتورم وجهها والذراعين والفخذين، وأيضاً كدمات مطابقة لعلامات أصابع على الرقبة. المريضة تروي أنها حاولت ان تدافع عن نفسها ولكن المهاجم كان قويا جدا. بناء على المعطيات السابقة فإن أولوية جمع الأدلة الجنائية تكون من منطقة؟

ا. الرأس

ب. الوجه

ج. الطرف السفلي

د. الرقبة

36. اي اعضاء في فريق الطب الشرعي يقوم الممرض الشرعي باستشارتهم لتحديد هوية الرفات؟

ا. عالم الأوبئة في الطب الشرعي

ب. عالم الحشرات في الطب الشرعي

ج. المصور الفوتوغرافي بالطب الشرعي

د. عالم الاجناس البشرية

37. ما هي اهم المعلومات التي يجب على الممرض توثيقها في الملف عند رعاية مريض تعرض لهجوم عنيف؟

ا. موقع تعرضه للهجوم ونوع الخدمات المقدمة له

ب. اخطار هلسلطات القانونية بالوقت المناسب

ج. اسماء أفراد الأسرة الذين تم الاتصال بهم

د. العلامات الحيوية

38. تم العثور على شاب يبلغ من العمر 45 عاما يعاني من السمنة المفرطة مقتولا في المنزل ودرجة حرارة الغرفة وكان آخر ظهور له على قيد الحياة قبل أسبوع واحد من اكتشاف الجثة . عند تقييم الجثة ، ما اهم المشاهدات 24م التي يجب على الممرض ان يتوقعها ؟

ا. وجود الذباب مع الديدان على الجثة

ب. الزرقة الرممية الثابتة (تلونات ما بعد الوفاة)

ج. تصلب العضلات الارادية

د. تصلب العضلات اللارادية

39. عند حصول الممرض الشرعي على موافقة للتصوير الفوتوغرافي الشرعي السريري. ما هي الإجراءات المهمة لتي يجب عليه اتباعها ؟

ا. توفير نسخة من الصور للسجلات الطبية والأسرة

ب. تقديم نسخة من الصور لإفادة القانون

ج. التقاط صور من مسافة قريبة للجروح بلا مسطرة

د. تضمين صورة لرقم القضية و تحديد الهوية والتاريخ

40. مريض مسن يعاني منهبوط في القلب غير معالج ادخل للمستشفى بسبب التهاب رئوي. كان المريض يعاني من كدمات متعددة في مراحل مختلفة من الشفاء على البطن والظهر،وكسور في الاضلاع وعدة ندوب خفية على الاطراف السفلية.اي النتائج تستدعي من الممرض الاخذ بعين الاعتبار للتحقيق في احتمال ان هذه الكدمات ناتجة عن اعتداء جسدي؟

ا. انتفاخ في البطن

ب. الالتهاب الرئوي

ج. كدمات متعددة في مناطق صعب تفسيرها

د. نقص الرعاية الطبية

41. اي العبارات تدل على أن الممرض يفهم تطبيق التمريض الشرعي عند رعايته لمريض الصدمة؟ "

ا. "الحصول على موافقة المريض لتقييم مفصل للإصابة والتأكد من جمع الأدلة الملموسة "

ب. "وضع خطة رعاية مع المريض والاتصال بالشرطة لمزيد من التوجيه ."

ج. "تقييم المريض وتقديم قائمة من الاطباء للمراجعات والعناية والبرامج المجتمعية "

د. "الاتصال بالشرطة والاتصال بالطبيب لأخذ تعليمات العلاج."

42 interpersonal. طالب التمريض يقدم تثقيف للمجتمع حول موضوع العنف بين الاشخاص (

)، وفهم عوامل الخطر الناتجة عنه وهذا يمكن تحقيقه عندتضمنين أي من المواضيع التاليهفي العرض؟ **violence**

ا. التعامل الحازم Assertive communication

ب. سوء معاملة الاشخاص abuse

ج. تقاسم الأعمال المنزلية

د. العلاقة بين الأشخاص

43. قام الممرض الشرعي بتقييم معاق يبلغ من العمر 37 عاما نقل إلى قسم الطوارئ ومعه طفح جلدي. أي من

النتائج التالية تشير إلى أنه يجب الاتصال بخدمات حماية البالغين ؟

ا. كدمة متآكلة على الجبهة ، والأظافر الطويلة

ب. الفذارة، رائحة كريهة، ولسعات براغيث

ج. الملابس الفضفاضة، وكدمة في الجبهة

د. كدمة الجبين، والأظافر الطويلة

44. عندما يطلب من الممرض الشرعي جمع الأدلة الجنائية من مريض فاقد الوعي، ما هو الامر الأكثر اهمية الذي

على الممرض الشرعي التأكد منه فيما يتعلق بهذه العملية ؟

ا. توفر غرفة نظيفة مع خدمات كافية

ب. توفر سياسة تبين جمع الأدلة الجنائية من الغائب عن الوعي

ج. المحافظة على جودة العينات أثناء جمع الأدلة

د. الممرض الذي يجمع الأدلة لديه التعليم المناسب لجمع الأدلة الجنائية

45. عند التحضير لتقييم إصابة وجمع الأدلة على الممرض إبلاغ المريض بما يلي:

ا. أن يضع الشخص المصاب كل الملابس الخاصة به في كيس

ب. أن توثيق النتائج سوف يعطى للجهات القانونية

ج. من حق المريض ان يرفض أي جزء من الفحص الطبي الشرعي

د. التوقعات من شهادة ضحايا العنف في المحكمة

46. لعدة سنوات، عمل الممرض في التخصص الفرعي لتمرير الطب الشرعي. في هذا المجال، ما هو التغيير أو التوجه الحالي الذي ينبغي على الممرض أخذه بعين الاعتبار؟

ا. انخفاض معدلات الجريمة العنيفة أدى الى انخفاض الحاجة لمرضى الطب الشرعي

ب. يفضل الطبيب الشرعي توظيف مرضي الطب الشرعي بسبب الخلفية الطبية لديهم .

ج. مع زيادة أعداد جرائم العنف يزداد الطلب على مرضي الطب الشرعي أكبر من أي وقت مضى.

د. مرضي الطب الشرعي يشكلون التخصصات الفرعية المتناقصة.

47. ادخلت فتاة تبلغ من العمر 18 عاماً إلى قسم الطوارئ و قالت انها تعرضت للاغتصاب . عند التقييم البدني، لم يلاحظ الممرض إصابة في المنطقة التناسلية. ما هي المعلومات التي من شأنها أن تؤثر على تقييم ممرض الطب الشرعي ؟

ا. بين 60% و 80% من حالات الاغتصاب المؤكدة تظهر الاصابة التناسلية.

ب. تضارب التقارير الشفوية مع الأدلة التي تم جمعها يظهر الخداع.

ج. عدم وجود الاصابات التناسلية يشير الى ممارسة الجنس بالتراضي.

د. بين 40% و 60% من الاعتداءات الجنسية لا تترك أي إصابات واضحة

48. قام الممرض الشرعي بجمع عينة السائل المنوي من ضحية الاغتصاب. ما هو العمل الذي من شأنه المحافظة على سلسلة صحيحة من الأدلة ؟

ا. العينة التي تم جمعها تكون مسماة ، مختومة، ويحتفظ بها في ثلاجة مغلقة حتى تعطى للشرطة.

ب. العينة توضع في وعاء خاص وتعطى إلى الطبيب الشرعي.

ج. يتم وضع العينة في ثلاجة غرفة الأدوية قبل اعطائها للشرطة .

د. تختم العينة وتعطى على الفور إلى الشرطة لتجنب التلوث.

49. ما هي اهمية الحفاظ على جودة ضمان الأدلة من قبل الممرض الشرعي؟

ا. الحفاظ على جودة ضمان الأدلة تبرئ الجاني

ب. الحفاظ على جودة ضمان الأدلة ستساعد في جمع بيانات كافية للإدانة.

ج. جميع الأدلة، إذا حفظت بشكل صحيح، ستدين المعتدي.

د. إذا حفظت بيانات الجريمة مع الحفاظ على جودة ضمان الأدلة سيتمكن استخدامها في المحكمة

50. جرح دائري مع كشط هامشي محيطي متركز مع حواف محترقة ، و 0.3 سم قطر رواسب البارود في المنطقة الصدغية اليمنى ، 1 سم أعلاه و 1 سم الى الخلف من قوقعة الاذن . البارود موجود ايضا في مسار الجرح هذا الجرح ناتج عن:

ا. اصابة بقوة غير حادة

ب. اصابة بقوة حادة

ج. اصابة حرارية

د. جرح بطلق ناري

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Annexes

Annex1

Table (1-4-a) Socio-demographic characteristics of the participants (n = 108)

Characteristics	No. of respondents (n)	(%)
Age (years)		
20-22	83	76.8
23-25	19	17.6
26-28	6	5.6
Gender		
Male	34	31.5
Female	74	68.5
Place of residence		
Village	52	48.1
City	48	44.4
Camp	8	7.5

Annex 2

Table (1-4-b) Socio-demographic characteristics of the participants (n = 108)

Characteristics	No. of respondents (n)	(%)
Study major		
Nursing	86	79.6
Midwifery	22	20.4
Universities		
Al-Quds university	50	46.3
Bethlehem university	30	27.8
Hebron university	28	25.9

Annex 3

Table (2-4a) Level of knowledge scores by socio-demographic data (n=108)

Characteristics	Number of respondents	Correct answers (%) by demographic variables	Knowledge level
			(excellent, very good, good, weak)
Age (years)			
20-22	83	41.3%	weak
23-25	19	37.7%	weak
26-28	6	42.7%	weak
Gender			
Male	34	34.7%	weak
Female	74	43.5%	weak
Place of residence			
City	48	41.5%	weak
Village	52	39.3%	weak
Camp	8	44.8%	weak

Annex 4

Table (2-4b) Level of knowledge scores by socio-demographic data (n=108)

Characteristics	Number of respondents	Correct answers (%) by demographic variables	Knowledge level
			(excellent, very good, good, weak)
Study major			
Nursing	86	39.7%	weak
Midwifery	22	44.5%	weak
Universities			
Al-Quds university	50	36.7%	weak
Bethlehem university	30	46.2%	weak
Hebron university	28	42.1%	weak
General forensic knowledge	108	40.7%	weak

Annex 5

Table(3-4) : Mean knowledge scores of the nursing and midwifery students according to gender (n = 108)

Health area	Gender	Mean knowledge (SD)	t statistics (df)	Mean difference	P value
Forensic Nursing	Male (34)	17.35 (7.87)	-2.955	-4.38	0.005
	Female (74)	21.73 (5.25)	(46.991)		

Independent *t* test
SD = standard deviation
df = degree of freedom

Annex 6

Table (4-4) Mean knowledge scores of the nursing and midwifery students according to study major (n = 108)

Health area	Study major	Mean knowledge (SD)	t statistics (df)	Mean difference	P value
Forensic nursing	nursing (86)	19.87 (6.83)	-1.93	-2.36	0.060
	midwives (22)	22.23 (4.58)	(47.91)		

Independent *t* test
SD = standard deviation
df = degree of freedom

Annex 7

Table (5-4) : One way ANOVA f-statistics analysis for the scores according to place of residence

Standard	Source of variation	Sum of squares	D.f	Mean squares	F statistics	P value
Place of residence	Between groups	66.506	2	33.253	0.787	0.458
	Within groups	4436.123	105	42.249		
	Total	4502.630	107			

One-way ANOVA

Annex 8

Table (6-4) : Tukey Multiple Comparisons Tests

Multiple Comparisons				
Dependent Variable: Total _ Sum				
Tukey HSD				
(I) place of residence	(J) place of residence	Mean Difference (I-J)	Std. Error	P value
City	village	1.11699	1.30102	.668
	camp	-1.60417	2.48219	.795
Village	City	-1.11699	1.30102	.668
	camp	-2.72115	2.46852	.515
Camp	City	1.60417	2.48219	.795
	village	2.72115	2.46852	.515

Annex 9

Table (5-4) : One way ANOVA f-statistics analysis for the scores according to place of residence

Standard	Source of variation	Sum of squares	D.f	Mean squares	F statistics	P value
Place of residence	Between groups	66.506	2	33.253	0.787	0.458
	Within groups	4436.123	105	42.249		
	Total	4502.630	107			

One-way ANOVA

Annex 10

Table (8-4) : Tukey multiple comparison test for the three university

Multiple Comparisons				
Dependent Variable: Total _ Sum				
Tukey HSD				
(I) Three universities	(J) Three universities	Mean Difference (I-J)	Std. Error	Sig.
Alquds university	Bethlehem university	-4.90667*	1.43323	.003
	Hebron university	-2.42571	1.46487	.227
Bethlehem university	Alquds university	4.90667*	1.43323	.003
	Hebron university	2.48095	1.63076	.285
Hebron university	Alquds university	2.42571	1.46487	.227
	Bethlehem university	-2.48095	1.63076	.285

*. The mean difference is significant at the 0.05 level.

Annex 11

Table (9-4): Tests of Between-Subjects Effects

Tests of Between-Subjects Effects					
Dependent Variable: Total _ Sum					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Gender	68.610	1	68.610	1.834	0.179
Place_of_Residence	37.890	2	18.945	.507	0.604
University	345.859	2	172.929	4.624	0.012
Gender * Place_of_Residence	.667	1	.667	.018	0.894
Gender * University	66.860	2	33.430	.894	0.413
Place_of_Residence * University	169.629	3	56.543	1.512	0.217
Gender * Place_of_Residence * University	93.678	2	46.839	1.252	0.291
Total	49236.000	108			

a. R Squared = .219 (Adjusted R Squared = .111)