Abstract

Introduction- Violence is a major public health problem worldwide. Emergency nurses are often in a unique position to identify, assess, evaluate, and treat these patients, but there is limited forensic knowledge and skills to enable emergency nurses to feel confident to guide their practice in New Zealand. The purpose of this study was to establish the level of forensic knowledge and skills currently known and used by nurses in clinical practice working in New Zealand District Health Boards (DHB)'s emergency departments. The study aimed to develop a tertiary education course based on the needs and the knowledge required, to enable nurses to practice confidently and safely with Forensic patients in the emergency department setting.

Methods- A descriptive approach using online questionnaires including both quantitative and qualitative components was sent to all emergency departments in New Zealand DHB's as well as the New Zealand Nurses Organisation (NZNO) emergency nurses' section. Open-ended questions were analysed by thematic analysis. Closed questions were analysed by SPSS version 15 data analysis software (SPSS Inc, Chicago, IL). Themes identified focused on the knowledge and skills emergency nurses currently possess and the level of specialist education required to ensure patients receive the best medicolegal care.

Results- Results of the questionnaire revealed limited knowledge in being able to correctly identify all forensic patients, insufficient knowledge around evidence preservation and collection and limited knowledge around legislation or legal processes governing clinical care were discovered. However, 84% of all participants felt that having forensic knowledge was important for their practice, indicating a need for

increased forensic education. Practice implications indicate that forensic education is warranted, needed and desired among ED nurses within the clinical setting.

Discussion- As forensic patients generally require emergency medical attention, it is important that nurses as part of the front-line first responders have forensic knowledge around preservation and collection of evidence during the provision of medical care. It was found that, emergency nurses do not have enough knowledge around forensic issues indicating that forensic education is warranted, needed and desired among ED nurses within the clinical setting. The study also provides support for the implementation of tertiary forensic science nursing postgraduate study in New Zealand.

Introduction

Hospital emergency departments are often the first place a victim and/or perpetrator of violence will be brought to for medical treatment. Emergency nurses are uniquely positioned to identify, evaluate, and treat these patients. Violence as defined by the World Health Organisation (2019) is “the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation"[1]. Violence is a major public health problem worldwide with half a million people being murdered each year and millions more children, women and men suffering from the consequences of violence in homes, schools and communities [2]. Violence of any kind has been strongly linked to negative health consequences across the lifespan. Growing research is showing that these health consequences not only include physical injuries but a wide spectrum of negative

behavioural, cognitive, mental health, sexual and reproductive health problems, chronic diseases and social effects [2, 3, 4, 5]. Additionally, those who experience violence access the health care system two to two and half times as often as those not exposed to violence. This is not only directly related to the violent event itself but also secondary effects such as chronic pain, gastrointestinal symptoms, fertility and pregnancy problems, substance use problems and psychological problems [6,7]. Furthermore, research shows that patient's health could be improved if health professionals could identify the signs of trauma underlying the patient's presentation [6, 7]. Additionally, women with a lifetime experience of violence were more likely to have consulted a healthcare provider within the previous four weeks due to illness [6, 7]. Furthermore, they are more than twice as likely to have been hospitalised within the previous 12 months, and are more than two and a half times more likely to report current symptoms of emotional distress and suicidal thoughts in their lifetime, compared to woman who had not experienced violence [6, 7]. These findings have considerable implications for healthcare delivery, highlighting the need for specialist skills from health professionals who possess expertise in providing trauma-informed, evidence-based, medically and legally sound care and treatment [8, 9, 10]. These health professionals must also be able to appropriately identify current and past victims of violence within the health sector.

Background

When an emergency nurse provides care to victims of violent events, that nurse is providing forensic nursing care. Forensic nursing in the emergency department is a nursing specialty that focuses on the identification of patients whose illness, injury or death stems from acts of violence [8, 9, 10]. It involves not only providing life-saving management, resuscitation, and health care, which is the primary focus of the

emergency nurse [11, 12] , but also provide the best medical and legal care, through effectively identifying, collecting, documenting and preserving evidence, that can be handed over to law enforcement authorities, to be used in the investigation and prosecution of a case [8,9,10]. It is imperative therefore that emergency nurses are competent and feel confident to provide forensic care to ensure the patient's medical and legal rights and needs are being met. This point was emphasised by Butchart and Mikton (2014) in the World Health Organisation report [2] on violence prevention, which recommends the need for forensically trained personnel in healthcare. The report states "*National health systems as a whole need to address violence by providing high-quality care and services that are timely, effective, sensitive to the needs of victims and their safety, and provided by well-trained professionals*."

Lynch (1997) [13] and Hinderliter, Doughty, Delaney, Pitula and Campbell (2003) [14] describe nurses as lacking knowledge and awareness of forensic issues and lacking competence and confidence in their ability to screen patients for violence. Multiple researchers across different countries, United States of America, Australia, New Zealand, Sweden, Turkey and Romania point to a lack of sufficient forensic education among emergency nurses [14-20]. In New Zealand this point is significant, since there are no nurses with forensic science qualifications working in emergency departments in New Zealand [19], nor is there any current tertiary postgraduate study for nurses in forensic science principles in New Zealand to date [21].

Another barrier to nurses screening patients for violence is the nurse's own experience of the issue. In New Zealand one in every four females is affected by violence within

the home [22], therefore the predominantly female nursing workforce is likely to include a significant number who are themselves victims of violence [23]. It is essential therefore, that the nursing profession take the guesswork out of forensic patient care for emergency department nurses to ensure appropriate and effective medical and legal interventions can occur. Therefore, the purpose of this study was to establish the level of forensic knowledge and skills currently known and used by nurses in emergency departments within New Zealand District Health Boards (DHB's). Then develop a postgraduate tertiary education course based on the needs and gaps identified.

Methods

Design/approach

A descriptive approach was chosen to capture emergency nurse's knowledge, skills and experiences in caring for patients who were the victims of violence. Content for the questionnaire was determined based on an extensive literature review through searches in CINAHL, MEDLINE, Ovid, EBSCOHost and ProQuest using the search parameter key terms of forensic nursing, evidence collection in the emergency department, and chain of custody. Forensic nursing and forensic evidence collection textbooks were also consulted when selecting content for the questionnaire [10, 18, 24, 25]. The study utilized a researcher-designed questionnaire aimed at assessing the forensic knowledge of nurses within the emergency department setting. The questionnaire included both quantitative and qualitative components and was developed to include forensic science nursing knowledge on; twenty-seven specific categories of forensic patients [28], (seven categories of which were dropped due to not being applicable to New Zealand), forensic evidence collection including documentation, legislation or legal processes [24, 25,] and the need for forensic science education. The questionnaire consisted of five

demographic questions and twenty questions about forensic nursing knowledge and practice. Nine of the twenty questions were open-ended questions asking questions such as "*How would you define forensic nursing?* and *"Which of the patient types [from the 20 categories] might you consider to be a forensic patient?"*. The remaining eleven questions were closed questions such as *"Do you believe you have enough forensic knowledge to address your patients' needs?" "Is educational material describing how to handle forensic evidence available on your Department/Hospital?"*

Once the questionnaire was developed, experts in the field of forensic science reviewed the questionnaire and gave input on the content validity, comprehensiveness, and readability.

Participants

The questionnaire was distributed to nurses by advertising online though the New Zealand emergency nurses' section and by emailing (n=13) charge nurses in each district health board (DHB) in New Zealand and asking them to disseminate the information about the research project to their current workforce. Nurses who wished to participate were then asked to complete an anonymous online questionnaire about their knowledge skills, thoughts and ideas in relations to caring for patients who were the victims of violence. Sixty-three registered nurses chose to participate in the research. The questionnaire was open for nurses to complete from April-June 2019 and took approximately 15 minutes to complete.

Data Analysis

A thematic approach [26] was used to analyse the open-ended descriptions to identify themes that can then be used to establish the level of forensic nursing knowledge and skills emergency nurses had, so that a tertiary education course could be developed. Closed questions and demographic data were analysed using SPSS version 15 data analysis software (SPSS Inc, Chicago, IL). The method of percentage calculation was used for the evaluation of the data.

The thematic approach used six levels of analysis; familiarising yourself with the data, generating initial codes from the data, searching for themes, reviewing potential themes, defining and naming themes and producing the report [26].

Ethical considerations

This study was carried out in strict accordance with the Royal Society of New Zealand's Code of Professional Standards and Ethics in Science, Technology, and Humanities and approved by Waikato Institute of Technology Human Ethics in Research Group (HERG) (Permit number WTLR172019).

Funding considerations

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Results

As seen in **Table 1**, the range in ages of participants was from age 20–61 and over, with most of the nurses being over the age of 40, indicating an aging nursing workforce. **Table 1** also showed that there were significantly more female participants than males,

with over 90% of participants being female. Most participants were from the Northland/ Auckland and Waikato/BOP/Gisborne region, which was expected as this is where the majority of New Zealand's population live. In terms of years of experience, more than 55% of nurses reported more than 15 years of clinical experience of which more than ten of those clinical years was in the emergency department. **Table 1** also demonstrated that 75% of nurses had postgraduate qualifications however, none of these postgraduate qualifications were in forensic science, rather they were in trauma and emergency medicine.

Forensic Science knowledge and evidence collection

The participants were asked to define what they believed forensic science nursing was, and if they believed having updated forensic science knowledge was crucial for their role in the emergency department?

Five participants did not know how to define forensic nursing, stating "*Not sure or unknown"* with one participant stating that it is *"not part of our scope of ED nursing so not sure".* Fifty-eight participants defined in part what forensic nursing is. For example, participants stated it is "*involving a crime", "is investigative nursing", "is a crime scene nurse".* Other participants stated*, "Is having criminal knowledge around nursing", "is collecting and providing evidence for court proceedings"* or *"is caring for victims that are related to a criminal event."* Only four participants clearly identified that forensic nursing related to both application of nursing knowledge and the scientific and legal processes around patient care relating to violence or trauma. For example, one participant wrote *"the application of the nursing process to public or legal proceedings, and the application of forensic health care in the scientific*

193 *investigation of trauma and/or death related to abuse, violence, criminal activity,*
194 *liability, and accidents."*
195
196 84% (n=53) of all participants felt that having forensic knowledge was important for
197 their practice, indicating a need for increased forensic education, 11% (n=11) were not
198 sure and only three participants felt it was not required.
199
200 Participants were then asked to identify all the forensic patients out of a list of 20
201 patient types as shown in **Table 2**. Most of the nurses could correctly identify sexual
202 assault, abuse of the disabled, elder abuse, a patient hit by defacto partner, firearm
203 injuries, and patients of catastrophic, mass destruction as forensic cases. On the other
204 hand, only 31.7 % were able to correctly identify suicide attempt, 41.2% were able to
205 correctly identify dog bites to a patient and 47.6 % of the health care staff were able to
206 correctly identify transcultural female circumcision as a forensic case.
207
208 Participants were also asked to select the best answer out of a list of 15 different
209 evidence items on how these items should be collected. As **Figure 1** demonstrates 52%
210 (n=33) of participants and 69.8% (n=44) of participants incorrectly identified how to
211 store items of clothing or damp jeans respectively while only 47% (n=30) and 28%
212 (n=18) of participants correctly identified that each item of clothing and damp jeans
213 goes into a separate paper bag. **Figure 1** also demonstrates how nine and twelve
214 participants can identify that grass and hair respectively should be correctly collected
215 into either an envelope or specimen container. Rope can also be collected into either an
216 envelope or a plastic specimen container. Only one participant identified that rope could

be collected into an envelope whereas 11 participants identified a plastic specimen container, all remaining participants incorrectly identified how to collect rope evidence as shown in **Figure 1**.

Furthermore, **Figure 1** demonstrates alarmingly that 11 participants believed no action was required for any type of bite marks even though 53% (n=34) correctly identified that a swab should be used to collect evidence from bite marks. Moreover, one participant identified that no action was needed to collect saliva around a wound even though 90% (n=57) correctly identified that a swab should be used to collect saliva around a wound. These results indicate that nurses' level of knowledge in the collection of forensic evidence in practice is clearly insufficient.

Legislation and the law

The research clearly demonstrated that the majority of nurses understood forensic knowledge related to legal reporting with 98% of all participants understanding that if a child has been sexual assaulted, or they believed were in danger of being harmed, they could report this to authorities regardless of the Privacy Act (1993)[1] or having a doctor supporting them. Furthermore, 85% of all participants also knew they could contact the authorities to report a woman they believed might be in danger of abuse upon discharge, but where the nurses forensic knowledge could be improved was around if a patient admitting to a crime or having illegal substances or weapons on them. Over 52 % or (n=32) participants did not know if the Privacy Act (1993)[1] would prevent them from being able to notify the police in either of these situations. In addition, 13 nurses said they did not know what to do if they found any illegal substances or weapons on a patient, indicating the nurses need for further knowledge and training.

The participants were then asked if they believed forensic science was important for their roles, with 95% or (n=60) believed having updated forensic science knowledge was important for their role in the department, furthermore, only three nurses believed that they had enough knowledge to practice safely and confidently with this patient group.

The participants were then asked who they believed was responsible to address a patient's forensic needs out of the following professionals; doctors, nurses, hospital administration, police, lawyers or the first person to attend the patient. 97% (n=61) of nurses recognised that it is a joint responsibility between nurses, doctors and the police. This is significant because collaboration between health care and law enforcement personnel is essential to most effectively meeting the needs of patients of violence.

Forensic science education

The nurses were asked if they had any educational material describing how to handle forensic evidence in their department, only six participants said there was educational material available with 53% (n=23) and 37% (n=23) saying they did not know or that there definitely was not. Furthermore, the nurses who said they did not know or there was no educational material available, discussed how they wanted specific guidelines and material that helped to guide their practice. *"I want to know exactly what is collected and how to collect it, how to describe wounds and document correctly so that it can be presented in court. I want to know where to store evidence and who takes charge of it until the police collect it especially if the unit is busy and we have lots of patients."*

Another stated, *"I want to know can wounds be photographed legally before we do dressings and I need clarification/guidance around the law regarding what we can and cannot report to authorities."*

Additionally, the participants were asked what areas if any they wanted more forensic education and training in. **Table 3** details the responses from the participants, with the areas they felt they needed or required education on. Some of the nurses gave written responses asking for education around the law and nurses legal responsibilities around reporting especially around what is and is not mandatory and how that relates to with or without patient consent. *"I want to know what our responsibilities are around reporting to authorities without patient consent and what we have to legally report on regardless of consent".*

The nurses also asked for training around photographing evidence including what to document, and how to document in a non-judgemental way. The nurses also asked for how to write court reports and to give court testimony especially around what can nurses be required to do or say including coronial court.

These findings clearly show that nurses are asking for implementation of clear forensic guidelines to follow and to be provided with forensic science education and training to enable them to facilitate better support and care for patients who have been the victim of violence.

Discussion

As forensic patients may require emergency medical attention, it is important that nurses, as part of the front-line first responders, have forensic knowledge around preservation and collection of evidence during the provision of medical care to enable legal processes to occur. However, there are no nurses with forensic science qualifications working in emergency departments in New Zealand [19], where it is now a growing nursing specialty in many other countries around the world [18, 27]. Nor is there any current tertiary training or in-service for nurses in forensic science principles in New Zealand [21]. This research has highlighted the shortcomings of this lack of education and the importance of this research to demonstrate the level of forensic knowledge and skills emergency nurses working in New Zealand DHB's have, and therefore, what education is required to enable nurses to practice with forensic patients confidently and safely and to ensure medicolegal justice is being met.

This study demonstrated that although New Zealand nurses were able to partially define the role of a forensic nurse and to identify some patients who are forensic cases, over half the participants could not recognise that suicide attempt, dog bites to a patient or transcultural female circumcision as a potential forensic case. This suggests that patients with a variety of forensic-related issues, may not be adequately treated to pursue justice because of inadequate knowledge by nursing professionals. Additionally, forensic aspects of patient care are not always apparent when a patient first arrives at the emergency department. Initial information provided to nurses may (knowingly or unknowingly) be missing and can have a significant impact on whether an individual will be capable of successfully pursuing justice [22, 27]. For example, if a nurse cannot accurately identify and assess that a patient has specific forensic needs, essential

interventions such as the collection and preservation of forensic evidence may be missed. This study has shown that the nurse's knowledge around evidence preservation is clearly lacking with over 52% of nurses not able to correctly preserve patient clothing, grass, rope or hair samples. Furthermore, one participant believed no action was required for the collection of saliva around a wound, and 11 participants believed no action was required for bite marks. This study's findings are not out of keeping with current research [15, 16, 23,] which also shows that emergency nurses are aware of forensic patients in their departments, but they lack the knowledge, training or confidence to adequately care for this population group.

This study demonstrated that although 84% of nurses acknowledged the importance of applying forensic principles in practice, and 97% recognised that law enforcement is not solely responsible for collecting evidence, nurses have a significant impact on the legal outcome of forensic cases, supporting the need for forensic science nursing education.

Sadler (2002) and Rahmqvist, Benein and Erlington (2018) describe how health professionals who work in emergency or acute care are more likely to find forensic or legal situations a cause of considerable uncertainty and anxiety [29,16]. This is certainly true in the New Zealand context where 52 % (n=32) participants did not know if the Privacy Act (1993)[1] prevents them from being able to notify the police if a patient admits to a crime or has illegal substances or weapons on them. These nurses also mentioned how they hoped hospital guidelines or policy could be developed to help guide their practice, indicating their potential uncertainty around forensic practice and the lack of resources currently available to help nurses with these decisions. These

findings also support research by Fanslow, Norton, Robinson and Spinola, (1998) who describe how New Zealand health care professionals are concerned with addressing the issue of violence and crime due to fear of 'opening Pandora's box', fear of offending, a sense of powerlessness, time constraints and issues associated with privacy [30].

The current study showed that 95% (n=60) participants wanted more education and training around evidence collection, documentation and forensic patient identification as well as, the law and the court process, indicating that the nurses were well aware of their knowledge shortfall and wanted to address these deficits.

Shapiro (2011) states that when emergency nurses are educated about, basic evidence collection, the practice can become an automatic and integral part of patient care that does not delay treatment, emphasizing the need for forensic science training for emergency nurses [31]. Sullivan (2005) also describes the importance of evidence recognition, collection and accurate documentation, where she points out this is a means to an end for giving patients who are victims of violence, true holistic care [12].

Unfamiliarity, inexperience, and knowledge deficits about whom and what forensic patient care involves, contributes to nurses experiencing anxiety regarding their professional roles and responsibilities and can be seen from the patients view point as disinterest, insensitive and uncaring [14], with previous studies showing perceived uncaring encounters can leave victims of violence feeling retraumatised and create more suffering [32, 33]. Furthermore, if education is inadequate, the assessment and priorities of care may outweigh the importance of recognizing, documenting and

collecting evidence. Therefore, if important evidence is destroyed and/or overlooked, a serious legal injustice could be rendered to the patient whether victim or suspect.

Conclusion

Forensic clinical nursing does not yet exist in New Zealand. Due to patients visiting the emergency departments as victim or perpetrator of violence, and the health consequences of violence having significant long-term consequences, it is important that front-line emergency nursing staff can meet the holistic needs of this group of patients. Therefore, it is imperative that forensic educational training and knowledge as well as departmental and organisational guidelines are developed to support the New Zealand emergency nurse to address not just the health care of these patients but their legal needs also.

References

[1] World Health Organisation. (2019) *Definition and typology of violence*. Retrieved from https://www.who.int/violenceprevention/approach/definition/en/

[2] Butchart, A., & Mikton. C. (2014). *Global status report on violence prevention 2014*. Geneva, Switzerland: World Health Organisation.

[3] Campbell, J.C. (2002) Health consequences of intimate partner violence. *The Lancet, 359,*(9314), 1331-1336. https://doi.org/10.1016/S0140-6736(02)08336-8

[4] Anda, R. (2018). SAMHSA's, *The role of Adverse childhood experiences in substance misuse and related behavioral health problems.* Retrieved February 2018 from https://preventionsolutions.edc.org/sites/default/files/attachments/The-Role-of-Adverse-Childhood-Experiences-in-Substance-Misuse-and-Related-Behavioral-Health-Problems_1.pdf

[5] McCollum, D. (2009) COLEVA- Known and suspected consequences of lifetime exposures to violence and abuse. *Academy on violence & abuse*. https://www.avahealth.org/resources/ava_publications/ava_publications_new.htm

[6] Koss, M. P., & Heslet, L. (1992). Somatic consequences of violence against women. *Arch Family Med, 1*(1), 53-59

[7] Fanslow, J., & Robinson, E. (2004). Violence against women in New Zealand: prevalence and health consequences. *NZ Med J, 117* (1206),1–12.

[8] Sekula, L.K (2016). What is Forensic Nursing? In A.Amar, & L.K Sekula (Eds.)*A Practical guide to Forensic Nursing: Incorporating forensic principles into nursing practice.* (pp 1-15). Indianapolis, IN: Sigma Theta Tau International

[9] Kent-Wilkinson A. (2009). The unique knowledge of Forensic nursing: implications for interprofessional education. *The Int J Interdisciplinary Soc Sci, 4* (7),171-182.

[10] Lynch, V., & Duvel, J.B. (2011). *Forensic Nursing* (2nd ed.). New York, NY: Mosby.

[11] McCracken, L. M. (1999). Living forensics: a natural evolution in emergency care. Accident and Emergency Nursing, 7, 211-216.

[12] Sullivan, M.K. (2005). Opportunities and Challenges in forensic nursing. In V.A Lynch (Ed.), *Forensic Nursing in the hospital setting*. St Louis, MO: Mosby

[13] Lynch, V. (1993). Forensic nursing diversity in education and practice. *Journal of Psychosocial Nursing*, 31(11), 7-14.

[14] Hinderliter, D., Doughty, A., Delaney, K., Pitula, C., & Campbell, J. (2003). The Effect of Intimate Partner Violence Education on Nurse Practitioners' Feelings of Competence and Ability to Screen Patients. *Journal of Nursing Education*, 42(10), 449-454.

[15] Henderson, E., Harada, N., & Amar, A. (2012). Caring for the forensic population: recognizing the educational needs of emergency department nurses and physicians. *Journal of Forensic Nursing*, 8 (4), 170-177.

[16] Rahmqvist, J., Benzein, E, & Erlingsson, C. (2018). Challenges of caring for victims of violence and their family members in the emergency department. *Int Emerg Nurs.* https://doi.org/10.1016/j.ienj.2018.10.007.

[17] Cucu, A. Ion, D., Paduraru, D., & Galan, A. (2014) Forensic nursing emergency care. *Romanian Soc Leg Med*, *22*, 133-136.

[18] Michel, C. M., (2008). *Implementing a forensic educational package for registered nurses in two emergency departments in Western Australia*. [Thesis] Fremantle, Australia: University of Notre Dame.

[19] Williams, T., Richardson, S., O'Donovan, P., & Ardagh, M. (2005). The forensic Nurse Practitioner role (Emergency nursing)- A potential response to changing Health Needs in New Zealand. *Medicine and Law, 24, 111-123.*

[20] Çalışkan, Nurcan & Karadag, Mevlude & Yıldırım, Nuriye & Bingöl, Umut. (2014). Determination of the knowledge level of health care staff working in pre-hospital emergency health services on the recognition of a forensic case. *Aust J Forensic Sci*. *46,* (1) 64-72. http://dx.doi.org/10.1080/00450618.2013.788682

1[21] Donaldson, A (2019) Forensic Clinical Nurses in Emergency Departments: An Emerging need for New Zealand. *Kai Tiaki Research***,** 10 (1) 52-56**.**

[22] Ministry of Health. (2016). *Family Violence Assessment and Intervention Guideline: Child abuse and intimate partner violence (2nd edition*). Wellington: Ministry of Health. https://www.health.govt.nz/system/files/documents/publications/family-violence-assessment-intervention-guideline-jun16_0.pdf.

[23] Davis, G. (2007). Family Violence in New Zealand: A Primary Healthcare Nursing Perspective. *Whitireia Nursing Journal*, 14, 7-16.

[24] James, S., & Nordby, J. (2009). *Forensic science: An introduction to scientific and investigative techniques*. Boca Raton: Taylor & Francis Group.

[25] Sandiford, A (2013) *Forensic Sci and the Law: A Guide for Lawyers, Police and Expert Witnesses.* New Zealand: Thomson Reuters.

[26] Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology, Vol. 2. Research designs: Quantitative, qualitative, neuropsychological, and biological* (pp. 57-71). Washington, DC, US: American Psychological Association. http://dx.doi.org/10.1037/13620-004

[27] Lynch, V. (2011). Forensic Nursing Science: Global strategies in health and justice. *Egyptian Journal of Forensic Sciences*, 1, 69-76. https://doi. org/10.1016/j.ejfs.2011.04.001

[28] Pasqualone, G (2003). Championing the Medico-legal Process. *Forensic Nurse*, March/April, 9-20

[29] Sadler, D. (2002). Forensic skills for nurses. *Nursing times.* Retrieved February 2, 2019, from https://www.nursingtimes.net/forensic-skills-for-nurses/197703.article

[30] Fanslow, J. L., Norton, R. N., Robinson, E. M., & Spinola, C. G. (1998). Outcome evaluation of an emergency department protocol of care on partner abuse. Australian New Zealand Journal of Public Health, 22(5), 598–603.

[31] Shapiro, P. (2011). Forensic first response: approach for emergency medical personnel. In V. Lynch, & J. Duval (Eds.) *Forensic Nursing Science* (2nd ed., pp. 123-133). St Louis, MO: Mosby.

[32] McBrearty, P. (2011). The lived experience of victims of Crime. *Int J Emerg nurs.* *19*(1), 20-26 https://doi.org/10.1016/j.ienj.2010.01.001

[33] Pratt-Eriksson, D., Bergbom, I., & Lyckhage, E. D. (2014). Don't ask don't tell: Battered Women living in Sweden encounter with healthcare personnel and their experience of the care given. *Int j of qual studies on health and well-being*, *9*, 23166. https://doi.org/10.3402/qhw.v9.23166.

Footnote 1- The Privacy Act controls how 'agencies' collect, use, disclose, store and give access to 'personal information'. Almost every person or organisation that holds personal information is an 'agency' in accordance to this act. The Privacy Act consists of twelve privacy principles. The privacy principles cover: collection of personal information (principles 1-4) storage and security of personal information (principle 5) requests for access to and correction of personal information (principles 6 and 7, plus parts 4 and 5 of the Act) accuracy of personal information (principle 8) retention of personal information (principle 9) use and disclosure of personal information (principles 10 and 11), and using unique identifiers (principle 12).

Figure Legends- These are written in the order that they appear in the manuscript.

Table 1- Demographic Characteristics of participants (n=63)

Figure 1-Collection and preservation of evidence. How participants chose to store different items of physical evidence is shown.

Table 2- Patient types and the number of participants who identified each type.

Table 3- Education topics identified by participants as needed.