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Original Research

Self-Collection Following Rape: An Integrative Literature Review

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Abstract

The forensic nurse purports a trauma informed and person-centered approach, focusing on the health needs of the patient with a rape experience. Timing of evidence collection recently expanded, but with passing time, DNA detection decreases. One solution proposed for victims is to self-collect following rape. The concept of self-collection was viewed as controversial, evoking mixed provider reactions. To bring clarity to issues faced by victims in remote and rural areas, and for those not ready to report, an integrative literature review method targeted strengths and gaps in evidence necessary for perspective before action or reaction to the post-rape self-collection proposal. The integrative literature review explored PubMed, responsive article citations, and gray literature for publications with systematic- or meta-analysis about self-collection. One article was responsive for self-collection post-rape, so parallel literature about sensitive self-collected testing was used. Analysis identified four areas of consideration: the patient, the medical forensic provider, the evidence, and the system. The authors identified strengths, weaknesses, opportunities, and threats to patients wishing to participate or not in the adjudication of the crimes against them. The authors found gaps in the evidence about rape self-

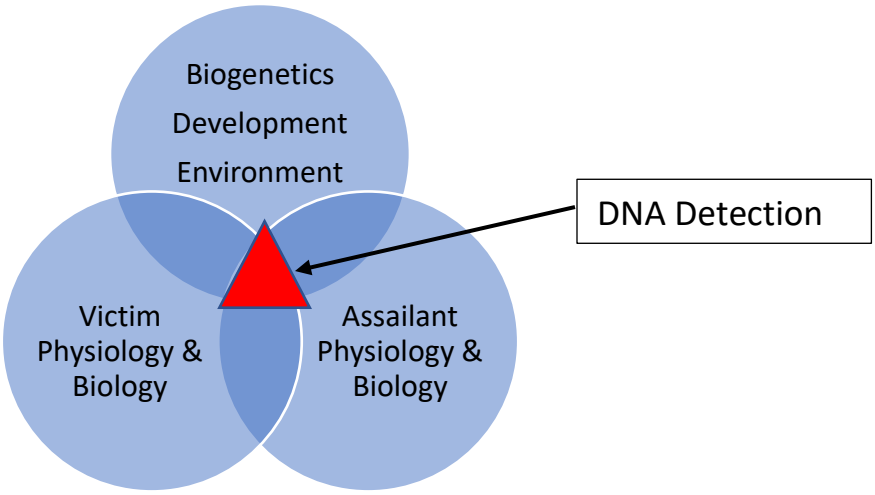
collection and found significant evidence in the self-collection of sensitive tests in the literature that concluded self-collection post-rape is a viable option when instructions meet or exceed the current practices of the forensic nurse responding to rape victims today.

Keywords: rape, sexual assault, evidence

Introduction

"In order for qualified forensic science experts to testify competently about forensic evidence, they must first find the evidence in a usable state and properly preserve it" (National Academies of Sciences Engineering and Medicine, 2009, August) (p. 9). The criminal justice system relies on functioning teams of professionals and an evidence management system with high standards to guide the identification, collection, packaging, storage, and security of evidence, guaranteeing no contamination or degradation while transported (National Institute of Justice, 2017). Figure 1 identifies evidence for multiple variables that influence the quality and amount of DNA evidence (Speck & Ballantyne, 2015). Health care providers learn about confounding health variables through their foundational education but not about evidence identification or management. Therefore, there is a recommendation for appropriate training in collecting, preserving, and packaging items holding potential probative value (Bristol et al., 2018; Magalhães et al., 2015; Newton, 2013; U. S. Department of Justice, 2013). Integral to the evidence process is the chain of custody, which tracks all the handlers of the items (Gosch & Courts, 2019; National Institute of Justice, 2017; Technical Working Group on Biological Evidence Preservation, 2014).

Figure 1
Influences in DNA Recovery

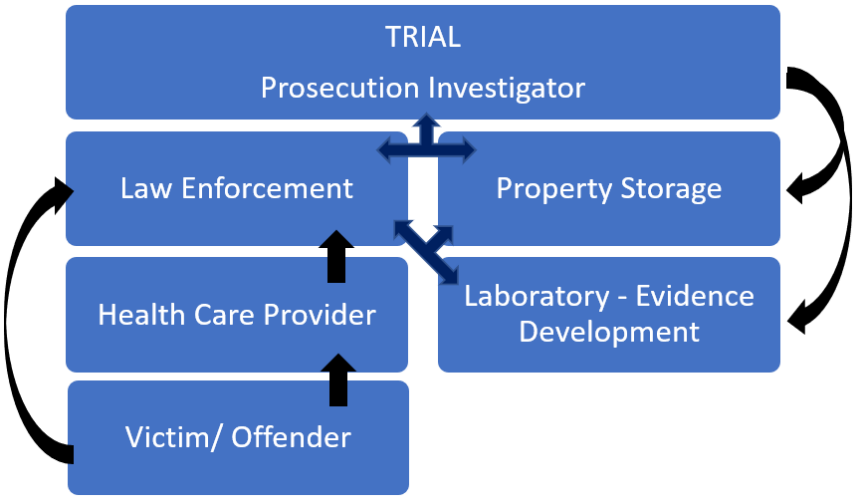


Victims of sexual crimes are often the first in the chain of custody, maintaining evidence through recommended behaviors (e.g., "do not shower," "do not drink," and "avoid eating") (Cybulska, 2007). The sexual assault victim often showers (Magalhães et al., 2015; Newton,

2013) and saves items for authorities to take when reporting. Most medical forensic health care providers or law enforcement professionals do not decline items collected by patients/victims or their guardians in the case of child victims. Most professionals accept the items, documenting the date and time received, description of the received item(s), and condition received (e.g., in a plastic or paper bag). They then package, seal, and sign the container, just as items collected directly from the patient/victim for the evidence kit or items collected at a crime scene. However, many professionals revealed during a recent meeting of forensic nurses that they rarely document if the victim brought the items in their documentation. However, once in possession of the evidence, forensic nurses begin the chain of custody, following recommendations in federal standards that properly preserve and transfer the items, as demonstrated in Figure 2.

Figure 2

Evidence Movement Among SART Members



Background

The history of post-sexual assault care has been prejudicial, promoting stereotypical views and false notions about victims (Campbell & Fehler-Cabral, 2018; DuMont & White, 2013; Lathan et al., 2019; Persson et al., 2018). These views hindered the effective investigation and prosecution of these crimes, resulting in a backlog of untested sexual assault kits (Campbell et al., 2017; Campbell et al., 2015) and additional serious crimes (ABC News, 2022). Forensic nurses and other professionals championed change through various organizations and educational institutions. When championed by emergency nurses ("Forensic Evidence Collection in the Emergency Care Setting," 2018) and team-based approaches (Lathan et al., 2019; U. S. Department of Justice, 2016) increasingly improved post- sexual assault criminal justice outcomes (Campbell, 2004; Sievers et al., 2003).

The link between stress and health (Juster et al., 2010; McEwen, 2002; McEwen & Seeman, 1999; McEwen & Stellar, 1993; Selye, 1956, 1974; Seto, 2017) improves with patient-centered and trauma-informed care (TIC) (Dowdell & Speck, 2022; Speck et al., 2023), where motivational approaches assist the patient/victim who experienced forced submission during the

sexual assault. The person-centered care approaches influences the person's self-concept (Keshet & Gilboa-Schechtman, 2017) of shame during a disclosure (DeCou et al., 2017). TIC principles (Substance Abuse and Mental Health Services Administration, 2014b; U. S. Department of Justice, 2016) of safety and transparency, voice and choice, along with peer support (Elisseou et al., 2019; Leitch, 2017; Lin et al., 2019; Muskett, 2014; Topitzes et al., 2019) enhance participation in the reporting process, which was the thinking behind the emergence of a post-rape self-collection kit. One company responded to poor reporting statistics and defended its motives as an effort to provide victims of sexual assault options in the safety of their homes. The company marketed the kit to colleges (Fowler & Bennett, 2019, August 29) where sexual assault remains poorly reported (Abner et al., 2016; DeCou et al., 2017; Donde et al., 2018) or understood among the enrolled students (Donde et al., 2018).

The firestorm that followed cited patient safety, proof of chain of custody, and untested use in court, resulting in the absence of case law to support or refute the practice (Fowler & Bennett, 2019, August 29; Knight, 2019, September 11; Wetsman, 2019, September 6). Others cited that victims would suffer immeasurably in a society that persists in victim blaming (Gravelin et al., 2019; Persson et al., 2018). The Michigan Attorney General, Dana Nessel, issued an "immediately cease and desist" letter, citing authority to "bring injunctive actions to protect the interests of consumers" under the Michigan Consumer Protection Act, MCL 445.901 *et seq* (Fowler & Bennett, 2019, August 29). The concern included failure to provide cost to consumers and information about *free* sexual assault medical forensic examination within 120 hours of the assault (p. 1). Several correctable conditions were listed with opportunities for compliance while not selling to Michigan consumers (p. 2).

Medical forensic health care providers' opinions fall across the discourse continuum. The health care equity following a sexual assault is a long-time concern among health care providers. Evidence supports access is dependent on geography, (Global Health Metrics, 2017; Ramsay et al., 2014), racial disparities (Braveman & Gottlieb, 2014), age, and medical concerns (Alvidrez et al., 2011; Zinzow et al., 2012). Some cautioned victims about a potentially negative outcome, such as the evidence quality or the patient being untrustworthy (Gravelin et al., 2019), chain of custody (Wetsman, 2019, September 6). Others cite a lack of documentation of injuries or post-assault medication access (Knight, 2019, September 11; Wetsman, 2019, September 6), whereas others have highlighted ethical considerations, the time-sensitive nature of the collection, and the need for appropriate consumer education materials.

Like many politically charged topics and issues today, initial emotional responses can hinder a robust discussion about the strengths, weaknesses, opportunities, and threats associated with self-collection following sexual assault or rape. There is no research supporting or denying support for self-collection following sexual assault. The integrative literature review aims at identifying issues associated with self-collection in parallel healthcare settings with sensitive testing, specifically self-collected kits following rape. The first aim is to identify related practices of securing evidence from patients and gaps in current practices or education that may contribute to dissension about a product designed to support victims and enhance justice through self-collection. The second aim is to provide scientifically sound assimilation of evidence to inform the path forward for researchers, funders, members of the justice system, and importantly, providers faced with the decision to take self-collected evidence brought by a victim and enter the item(s) into a chain of custody in preparation for adjudication processes.

Aims

The aims of the analysis are to

1. Identify actual practice of securing evidence and gaps in medical forensic practice related to evidence collection, as well as the health care delivery impact; and
2. Provide an evidenced-based path forward for researchers and funders alike.

Methods

A integrative literature review, limited to publications 2012 – 2022, using a PubMed search with terms *testing by self-collection* found 10,812 publications, an insurmountable number to review. Addition of the search term *rape* reduced the number to seven, where one was responsive to the search related to self-collection and rape, and six were not. Given the dearth of publications in the field related to self-collection following rape, a search using the terms *self-collection AND sensitive testing*, found 1,543 publications over the last ten years, narrowed with the search term *HIV,* finding 90 articles. Of the 90, narrowed with the search term *meta** finding six publications related to self-collection. Two articles were unresponsive (child HIV and Tuberculosis). Gray literature and references in the remaining articles were used to find other publications relevant to the integrative review completing the references cited.

Results

There are four sections reflecting the analysis of the integrative literature review, including

1. The **victim**[1] and their activities following a crime,
2. The **health care provider** and a dual role in a system where the patient assessment occurs for injury, treatment, and referral,
3. The health care provider as a **collector of evidence**, whether an RN at the bedside or advanced practice forensic nurse or physician in sexual assault care, and
4. The **system's response** when determining patient medical management or management of evidence and its usefulness after collection.

The Victim/Patient/Survivor

The integrative evidence review found that most survivors do not seek health care following sexual assault (Astrup et al., 2013; Crane, 2006; McLean et al., 2011; Office on Violence Against Women, 2013; Sommers et al., 2012; Zinzow et al., 2012). When they do, victims experience scrutiny about motives for reporting by Criminal Justice (CJ) representatives (Persson et al., 2018), and many do not report or delay reports. Particularly at risk are patients unable to report due to lack of equity and access – military deployed, incarcerated, confined, in care homes, remote rural locations, and others (Marino et al., 2019; Office on Violence Against Women, 2013). Predictable in delayed or no reporting are: age (Burnett et al., 2019), gender (Samuels et al., 2018), relationship to assailant (Bicanic et al., 2015), shame (DeCou et al., 2017), rape myth acceptance (Heath et al., 2013) and geographical location (Goodson & Bouffard, 2017; Rheuban, 2006). Supporting the reasons for the lack of reporting following sexual assault is evidence that 70% of sexually assaulted women wash their genitals following an assault and before contact with health care providers or law enforcement (Badour et al., 2012). In this case, self-collection availability helps capture the maximum DNA before washing empirically or time and activity diminish DNA detection. Some argue that rapid collection

provides evidence *if* the victim intersects with the criminal justice system (National Academies of Sciences Engineering and Medicine, 2009, August), where safety, design, and storage methods mitigate and explain contamination and degradation (Loeve et al., 2013).

Self-collection or self-administering processes are not novel concepts. Not generally known, post-coital injury is common with consensual sexual activity, and when it occurs, it heals rapidly (Anderson & Sheridan, 2012; Astrup et al., 2013; Crane, 2006; McLean et al., 2011; Office on Violence Against Women, 2013; Sommers et al., 2012; Zinzow et al., 2012). Evidence supports that patients do not hurt themselves during self-administered procedures, particularly in the genitourinary system (Kersh et al., 2021). As such, the growing home testing market for socially sensitive tests includes viral PAPs, HIV, and STIs and during Covid-19, providers and laboratory systems found ways to provide increased testing, convenience, and privacy in many areas of heath care. Self-insertion commonly occurs for sexually transmitted infection testing, intravaginal and rectal medication application, self-catheterization, tampon insertion and removal, and insertional contraception, among others (Kersh et al., 2021). When studied, research findings support self-collection increases access to health care and equity for underserved populations at risk for serious health sequelae and the same at-risk, underserved populations' increased utilization of health care (American College of Emergency Physicians, 2021; Bilbao Bourke et al., 2021; Des Marais et al., 2018; Hess et al., 2008; Kersh et al., 2021; Nelson et al., 2015). While research in self-collection does not yet include patients who experienced a sexual assault, the federal goal is increasing the utilization of specially trained medical forensic providers.

The Health Care Provider

Medical forensic health care has little to do with the law enforcement investigative process, and prosecution is outside medical forensic health care provider expertise (American Nurses Association, 2018a). At the same time, evidence is an essential tool in adjudication. Yet, the usefulness of a particular piece of evidence is mixed, especially when findings remain unclear early in an investigation (U. S. Department of Justice, 2013).

There is a lack of medical forensic health care services (Delgadillo, 2017) and patients outside the urban areas use routine clinical settings, such as public health clinics, if they choose follow-up for STI and pregnancy risks. Most communities/regions have available emergency contraception services through federally funded clinics (Holland et al., 2018). There is no evidence that the forensic nurse intervention improves recovery or mitigates adverse health outcomes (Campbell et al., 2005). However, research supports *adversarial growth* [2] (Landes et al., 2014) even without treatment after trauma. They identify elements necessary for recovery from all trauma are Trauma-Focused Cognitive Behavioral Therapy, social support, and a healthy lifestyle (nutrition, exercise, faith) (Bassuk et al., 2017; Bruce et al., 2018; Landes et al., 2014; Linley & Joseph, 2004). Continuous contact with a skilled health care provider is a strategy supported by research. It includes promoting continued mastery of reflections in response to emotional feelings about sexual violence and other traumas, as well as anxiety reduction exercises and structured reflection – all contributing to patient-victims recovery (Bassuk et al., 2017; Bruce et al., 2018; Horowitz, 2018; Landes et al., 2014; Linley & Joseph, 2004).

The Evidence

Chain of Custody. A concern related to self-collection is that packaging, storage, and transfer (chain of custody) "won't stand up in court" (Knight, 2019, September 11; Wetsman, 2019, September 6). There is little evidence to support the cautionary warnings about the chain of custody, the trustworthiness of the collector/victim, or the lack of documentation. "Chain-of-custody documentation identifies all persons who have had custody of evidence and the places where that evidence has been kept in chronological order from collection to destruction." (Technical Working Group on Biological Evidence Preservation, 2014) (p. 25). Chain of Custody is a logarithm document that chronicles possession and is designed to help victims and accused alike (Office on Violence Against Women, 2013).

The chain of custody begins with the victim, who gives evidence to a health care provider or law enforcement officer, who continues the chain. The courts use the chain linkages to ensure the integrity of evidence during adjudication, and after adjudication, all evidence ends up in property storage facilities. In health care settings, the patient is the first possessor of evidence in the chain of custody. An underlying assumption in health care settings is that the patient will tell the truth because the health care provider relies on the patient's history of events to create a medical and health promotion treatment plan (Ball et al., 2019). There is also a provider presumption that the patient would not alter or destroy evidence, argued by courts and beyond the current discussion. In cases without proper instruction on collecting and maintaining collected items, the evidence may be compromised, where adulteration may occur *without* intent in the existing environment and with the aging of the evidence. Clear instructions about the evidence and maintenance mitigate degradation.

Accuracy. Evidence collection by SANEs is more accurate than collection from non-SANE collectors (Sievers et al., 2003). Accuracy in this study was measured with ordinal descriptions of documentation and not the probative value of evidence (e.g., completed chain of custody, properly sealed and labeled envelopes, collected blood and swabs, and included crime laboratory report) and is without statistical significance. The contamination concern was not addressed, which is always a risk, even with the medical forensic provider, where laboratories often ask for provider DNA. With sensitive DNA testing, it is common to find aberrant DNA from persons not in the sphere of the victim, e.g., investigators or health care professionals. Defense challenges of such can always occur during adjudication. To minimize contamination, medical forensic providers may or may not follow recommended guidelines to avoid contamination, e.g., Personal Protective Equipment, e.g., barrier clothing, and frequent glove changes (Technical Working Group on Biological Evidence Preservation, 2014).

Parallel science of self-collection. Conflicting data in parallel science exists supporting self-collection of sensitive tests. A thorough analysis of the self-collection issue is difficult when there is no reliable research to support or refute self-collection following sexual assault. There is anecdotal evidence from forensic nurse self-reports in practice, where medical forensic health care providers[3] and law enforcement accept self-collected evidence routinely from patients/ victims. The victim is often the first in the chain of custody, preserving the item and then giving the evidence to a health care provider or law enforcement officer. From that point, the evidence proceeds throughout the established evidence management processes (Figure 2). Keep in mind

that the probative value of any item of evidence is initially unknown (Technical Working Group on Biological Evidence Preservation, 2014) (p. 2).

The self-collection movement and research exist to support in-home self-collection for at-risk and remote vulnerable patients. Advocacy groups support and advise consumers about testing for sensitive tests such as sexually transmitted infections. When the SANE collects urine for forensic purposes, they do not witness the collection and trust the person followed instructions for self-collection. Consequently, today consumers can self-test for DNA and all the available tests around heredity offered by the home-testing market. The companies providing sensitive sexually transmitted disease testing encourage "tak[ing] control of your intimate health" and sending the samples to CLIA-approved organizations and cite FDA approval for self-collection devices (Self-collect LLC, 2019).

Evidence timing. Although the timing for evidence collection is widening (Speck & Ballantyne, 2015; Speck & Hanson, 2019, November) and methods for DNA detection improve annually with rigorous analysis of the backlog (Wang & Wein, 2018), the rapid collection increases the probative value of evidence of sexual assault (Butler, 2015). Self-collection is an option for reducing the time interval between the act and the collection of evidence. With proper and safe instructions for collection, packaging, and preservation, the research indicated that patients increase their utilization of health care providers (Des Marais et al., 2018; Hess et al., 2008; Nelson et al., 2015).

Evidence acceptance or collection? Often patients/victims bring items to the medical forensic examination, and the medical forensic health care provider does not reject these items. The gap identified by this analysis is that the evidence collected and delivered by the patient, the evidence collected from the patient's body by the health care provider, and the evidence self-collected during a medical forensic exam are not consistently differentiated in the documentation by the medical forensic provider. More research is needed to discern the value of items *collected by the patient and brought to* a health care provider, *collected by the patient during an exam,* and *collected from the body by* the health care provider. There is an opportunity to discern the probative value of all collection situations with research.

The System

The evidence for the effectiveness of forensic nurses in courtrooms is challenging to study (Campbell et al., 2005). Trends demonstrate improved psychological care of victims (Barzoloski-O'Connor, 2003), fewer errors in evidence collection (Ledray & Simmelink, 1997; Sievers et al., 2003), documentation and chain of custody (Sievers et al., 2003), and better adjudication outcomes (Campbell et al., 2005). Adjudication outcomes are not forensic nurse practice outcomes or scientific endeavors for forensic nurses. Rather, they reflect the totality of an adjudicated case, including police investigation, gathering evidence of a crime, charging decisions, and attorney strategies for prosecution or defense – *all outside the scope of the forensic nurses' practice* and scientific inquiry.

One identified area influenced by forensic nurse practice and scientific inquiry is patient/victim responses to participation in court processes. One study recognized that "strong patient care practice had positive indirect effects on victims' participation in the criminal justice system" (Campbell et al., 2011) (Abstract). However, there is no evidence to demonstrate that victim participation in adjudication processes is good or bad for the victims' emotional or physical health. Often survivors recant terrible experiences with the healthcare system with the

unintended consequence of the "post-rape forensic examination ... [as an impetus to] discourage reporting, investigation, and prosecution" (Corrigan, 2013) (Abstract).

All evidence collection should be accurately recorded, whether brought to the nurse, collected by the patient during the exam, or collected by the nurse. The court views the forensic nurse's role as unbiased with three functions: "comfort and care of patients complaining of sexual assault, competent and consistent evidence collection, and expert testimony on anatomy and tissue" (Canaff, 2009) (Abstract). Other benefits of the forensic nurse witnesses include their availability, cooperativeness with the court, and understanding of their responsibility to describe nurse-initiated activities. This responsibility also includes describing the institution's protocols (e.g., physical evaluation, evidence collection, and management), reasons for referrals for medical diagnoses, documentation of injury, and, if deemed an expert (based on education and experience), providing an experienced view of the findings to the court (Early, 2016). A consideration for the court is that bedside experience is not medical certainty.

Courts deem registered nurses as experts when they meet the court's definition of an expert. With the low bar for what makes a court expert, courts should move with caution and full understanding of the General Forensic Nurse and Advanced Forensic Nurse practices as defined by the nurse licensing bodies and organizational and educational standards (American Association of Colleges of Nursing, 2021; Speck & Mitchell, 2021). Nurse expertise is a licensed designation (Huynh & Haddad, 2022), not afforded to the registered nurse without additional credentials (e.g., SANE, wound care, emergency care), healthcare organizational approval, and experiential practice history. For graduate prepared advanced practice nurses in forensic nurse settings, advanced education, and additional credentialing (e.g., nurse practitioners and clinical nurse specialists) (Mohr & Coke, 2018) are required in addition to their entry into practice credentials. The advanced practice nurse role with independent practice authority includes the creation of a differential diagnosis for the cause and manner of the findings (e.g., co-morbid disease influence or blunt trauma) as well as prescriptive treatment plans (e.g., psychological interventions and medication prescriptions). Regardless of the nurse's licensed practice authority, evidence presentation and the determination of its probative value is a criminal justice process *outside the scope of all nurse practices.*

Limitations

The authors realize other concerns not addressed in this analysis, such as delving into the ethical considerations of self-collection, explicit or implicit bias, and current collection and management processes. As best as possible, supporting data and research about the identified issues were brought forward, including publications that may be considered outside the dates typically useful in establishing an evidence base. However, some cited publications are seminal and provided the foundation for thinking about forensic nurse practices that permeate today.

Discussion

The analysis contained herein was to identify the complexities of the actual practice of a forensic nurse, gaps in medical forensic practice related to evidence collection, and treating the patient in a medical forensic health care delivery system. The authors hope to provide a path forward for researchers, educators, administrators, and funders alike in the areas of patient/victim/survivor care, forensic medical health care provider education and practices (whether RN or advanced practice), evidence management in health care settings, and legal

systems' use of professional practice roles and the evidentiary outcomes. The following summary follows the evidence for each stakeholder.

The Patient

- Self-collection of samples/specimens is a safe, widely accepted practice in medical communities, particularly for populations at risk and without access to care and promotes engagement with health care providers.
- There is no evidence supporting that patients will self-injure any more than other patients who seek medical forensic health care providers or law enforcement intervention with a report of rape or sexual assault.
- The concern about patients not receiving comprehensive care is a valid concern, supported by the persistent evidence that few victims report (<1:4) and most wash or bathe before reporting (8 of 10 reporters). There are no recommendations other than encouraging reporting sexual assault and care in a medical forensic setting, if available.
- There is a federal push to train providers for those in rural and remote locations, which has not yet materialized in all geographic areas. Tele-health/medicine is growing to assist providers and, in the future, may provide an outlet for care for the victim directly.
- There is no evidence to address self-collection outcomes as there is no data. However, self-collection offers the military deployed, remote or rural victims a choice about when and if to report with strong evidence that reduces the timing from event to collection. For those unsure about reporting, educational literature emphasizing seeking specialized care post-assault may capture a population never served by the medical forensic health care provider community.
- Self-collection in medical procedures is receiving wide acceptance, particularly in vulnerable populations where manufacturers adhere to regulations for the safe use of their products.
- Nurse ethics supports the patient's autonomy by providing options for individuals without resources to participate in alternate methods for seeking services – one of the options in the case of sexual assault is self-collection.
- Companies providing self-collection options must meet legislative and regulatory guidelines for protecting the public, with evidence-based instructions for the collection process and safety of the product and strong recommendations to seek formal care from medical forensic providers. Providing experienced forensic nurses via telehealth is one way to address gaps to support victims who are unsure about reporting.

The Medical Forensic Health Care Provider

- Self-collection, a trauma-informed and patient-centered approach, meet the ethical obligation of nurses to support patient autonomy and self-actualization (American Nurses Association, 2015b).
- The sparse evidence is clear that the quality of evidence collected by a medical forensic provider is more accurate than non-trained providers (Sievers et al., 2003). Still, the notion that quality evidence diminishes without a medical forensic provider is conjecture. There is no data with which to compare the two.
- There is a need in health care communities serving patients/victims to distinguish between evidence collected by the patient/victim and given to the provider, evidence collected by the patient/victim during an exam with a forensic nurse present, and items

directly collected by the medical forensic provider. The patient-provider encounter should reflect this distinction in the documentation of items of evidence.

- The research evidence indicates a shortage of providers to care for victims outside urban areas. However, there are community health care centers and public health departments that could provide contraceptive and medical care recommended to patients after a sexual assault.
- All evidence collected by the medical forensic health care provider holds potential probative value because the items are collected as directed by the patient's event history. Licensed registered nurses are skilled providers trained to recognize potential health sequelae as risks to recognize and mitigate (American Nurses Association, 2018a, 2018b). Licensed advanced practice registered nurses have RN skills and can also diagnose and treat post-assault risk and illness like physicians. In the best circumstances, the patient/victim can access the advanced forensic nurse provider for future health care needs.
- There is no evidence that medical forensic health care providers improve recovery or mitigate adverse health outcomes for patients/victims. There is some evidence that the presence of SARTs and SANEs improve satisfaction surveys with the process, and clients feeling supported in a very scary system (Campbell, Patterson, & Lichty, 2005;Campbell et al, 2008; Fehler-Cabral, Campbell, & Patterson). Similar anecdotal reports exist from victims who report in the communities with the *Start by Believing* campaign (EVAWI, 2023). Further research is needed in this area to understand specifically how populations differ, with and without the presence of a supportive team. Regardless, nurses motivated by ethical principles (American Nurses Association, 2015a) in person-centered and trauma-informed care support and encourage patients to exercise autonomy through the follow-up process, with mental health and medical services that improve opportunities for post-trauma growth. Futuristically, interaction with the forensic nurse, trained as SANE or advanced forensic nurse, via telehealth may be sufficient to guide the client through self-collection. Contact with a forensic nurse, knowledgeable about local resources and processes following rape reports is essential for referrals promoting continuity in patient care.
- Large-scale studies following patients/victims through their recovery experiences are essential in understanding personal growth post rape trauma.

The Evidence

- Questions about the victim's motive (DeCou et al., 2017; Koss, 2000) to bring evidence to a medical forensic provider destabilizes the victim's belief of safety when seeking care. The question about source or motive undermines the decision of the victim to self-collect any evidence and questions the victim's desire to enhance their case or improve the quality of evidence with the rapid collection, particularly if there is a psychological urge to bathe/shower/or clean orifices "contaminated" by an assailant.
- Victims/Survivors have traumatic treatment experiences in systems (Christian-Brandt et al., 2019) and are often subjected to court proceedings that question motives for reporting, where their words or behaviors are twisted, and often the victim regrets agreeing to the court processes (Heath et al., 2013).
- The parallel science of self-collection is robust and used throughout medicine for various sensitive testing (e.g., STIs). It is common (e.g., cardiac arrhythmia and diabetes

monitoring), and the probative value of any self-collection, as in medicine, is unknown until translated by the licensed health care provider or laboratory scientist, whether clinical or forensic.

- The research supports a narrow interval between the event and the collection of samples, a goal of the self-collection movement. After meeting consumer safety needs, instructions to seek care from medical forensic providers are important to the adjudication process.
- A gap occurs due to a lack of evidence supporting the assertion that self-collection of evidence, a common practice noted anecdotally by forensic nurses (see footnote 2), results in problems with the chain of custody.
- There is no evidence that the chain of custody is more vulnerable to defense charges than it already is. Data is needed to support or refute this claim.
- Evidence collected from the patient who brings evidence and consents to release the evidence to a forensic nurse or law enforcement professional should follow standard operating procedures (SOP) 2 (Found at https://www.safeta.org/page/ExamProcessEviden3)
- The probative value of self-collected evidence has no support in the literature because it is not yet studied. The literature, however, supports the need for accuracy in labeling, packaging, and management of evidentiary items, including sexual assault kits and other items collected following sexual assault.
- Contamination is also not studied, whether by providers, law enforcement professionals, or victims, but it is omnipresent in standards requiring increasing barrier protections for the current highly sensitive DNA tests (National Institute of Justice, 2017).
- The concern about an interrupted chain of custody is not supported by published studies or current evidence management practices.
- Additional research is needed to differentiate and prioritize the evidentiary value of items, regardless of the collection or acceptance into the chain of custody.

The System

- The courts find the practices of medical forensic health care providers useful, where they document care activities and interventions to mitigate trauma reactions, collect evidence, document injuries, and testify about their activities.
- Emotionally driven reactions in systems and organizations are divisive and not useful in the scientific endeavors of forensic nurses.
- Medical forensic health care providers advocate and influence victim participation in the criminal justice system through fewer errors in evidence collection, treatment, and psychological care of victims, resulting in better adjudication.
- However, it is unknown if the victim benefits from participation in the adjudication process, and the link to the nurse is not measurable.
- The evidence presentation by officers of the court, acceptance by the court, and determination of the probative value of evidence in the adjudication process are outside the scope of all nurse practices.

Conclusions

The assertions about forensic nurse practices and potential negative outcomes are concerns without evidence, and the results of the integrative analysis did not support widely disseminated assertions of ethical violations or political actions taken by victims who choose self-collection

following sexual assault. The analysis did identify many gaps in the literature about forensic nurse practices and the acceptance of evidence collected by the victim and brought to law enforcement or the forensic nurse. However, this is not an exhaustive list of the research gaps in medical forensic health provider practices or patient outcomes. As such, these authors support research and practice that is trauma-informed and patient-centered, with a focus on using nursing theories, concepts, frameworks, and accepted scientific processes for research and analysis. Participation and leadership in teams that include forensic nurse researchers are necessary to answer the following:

- What is the impact of nurse practice on patient health outcomes following trauma (rape or any act of violence)?
- What are current methods to establish the safety and efficacy of self-collection after sexual assault or rape, or any act of violence?
- What impact does self-cleaning have on DNA retrieval over time and the effect on victim healing?
- What defines victim self-collection and medical forensic provider collection? How is that documented?
- What evidence tracking occurs from the collection of items in a sexual assault kit through the disposition of the kit or items in the kit, and how does it affect victim healing?
- What ethical tenets should be considered and addressed regarding self-collection following a sexual assault by the nurse and the system?
- What are the minimal recommended contents of a sexual assault kit, whether used by a medical forensic health care provider, law enforcement officer, or the survivor of a sexual assault?

The evidence supports a robust data retrieval system, instructions in self-collection, access to educational materials, location of nearest health care services, and detailed instructions about safe self-collection where the consumer can read, listen, or visually see the website, with language options and visual/auditory support. There should be tracking of the self-collection kits from development through the collection to destruction, with expiration dates and time limits for use. For example, an activation coding system, use of a cell phone to photograph documentation of date and time for steps, and access to a system to document their history in a journal, allowing the sexual assault survivor to record their memory as it returns.

The medical forensic health care provider should add data points to the medical forensic chart that distinguish who brings evidence to the encounter (first in the chain of custody) and who collects evidence after arrival in the system. In self-collection, the medical forensic health care provider avoids challenging victim decisions and encourages patients/victims to be confident in their motives and actions. As such, the provider accepts all items from the patient, and history of the patient's experience, supporting trauma-informed principles (Substance Abuse and Mental Health Services Administration, 2014a), beginning with their autonomy, voice, and choice to report and any subsequent decisions, aligning with nurse ethics (American Nurses Association, 2015a). Additionally, for the advanced practice and physicians, opportunities to support the survivor throughout post-trauma emotional growth and being present to help overcome triggering and sensory reactions that occur for some throughout their lived experience. Nurses also provide additional instructions and opportunities for all health concerns.

For the courts, all evidence, regardless of source, requires effective recording to maintain the chain of custody. The nurse's role is broad, but for the court, the expectation is to take care of the patient first. Then the court expects consistent evidence collection, also known as sampling in nursing, using methods based on the current nursing and medical science to avoid harm to the patient. Last, the court expects testimony about nurse education and experience, and in the case of sexual assault – caring for the biopsychosocial and spiritual impact and health outcomes, which is the practice of all registered nurses. The medical forensic nurse provider should understand that factual witnessing about the encounter and their nurse activities provides documented and verbal evidence for the system. The comprehensive criminal justice or civil investigation and other probative evidence gathered by the professionals charged with investigating the crime are unknown to the medical forensic health care provider. Nurses must know their scope of practice and the limits of their role as forensic nurses, whether registered nurses or in advanced nursing practice. Last, presenting evidence and determining its probative value is a criminal justice process *outside the scope of all nurse practices*.

Footnotes

[1] In this paper, the patient, victim, and survivor terms are used interchangeably. As nurse authors, patient is the preferred term as the person seeking care is receiving care under a license governed by the State Boards of Nursing or other governmental agency designated to license providers. The purpose is to guarantee minimum education, scope and practice standards, and safety of the population served.

[2] *Adversarial growth* (AKA *post-trauma growth*) is a term that describes the process of recovery and acceptance of traumatic events in one's life, identifying strengths and lessons learned. Research is clear that most recover from traumas, where recovery for some is more difficult with adverse childhood experiences.

[3] At a recent meeting of forensic nurses, the following question was asked of random attendees: "Have you declined to take items that were collected by the victim and brought to the medical forensic examination?" The resounding answer was "no," and many reported taking tampons, wash cloths, paper napkins, Kleenex, and toilet paper and other miscellaneous items brought by the patient to the medical forensic evaluation.

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