#### **Original Research Article**

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20252920

# Readiness to integrate sexual assault nurse examiner curriculum: pilot study results on nurses' perspectives in an Indian context

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Received: 25 August 2025 Revised: 02 September 2025 Accepted: 08 September 2025

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#### **ABSTRACT**

**Background:** Addressing the need for improved healthcare services for survivors of sexual assault in India is a crucial issue. It is recommended to add forensic content to nursing curricula in India, but effective implementation in this regard is limited. We assessed the readiness of nursing faculty to integrate the sexual assault nurse examiners (SANE) curriculum in India.

**Methods:** A pilot study was conducted among nursing faculty members from four nursing colleges in a selected district of Kerala, India. A total sample of 100 faculty members from the selected colleges was surveyed using a pretested structured questionnaire.

**Results:** Most participants (95%) agreed SANE would improve survivor care. Barriers to reporting included police/legal intimidation (98%), male examiners (12%), invasive procedures (25%), and social stigma. Most supported having a dedicated caregiver for survivors (85%). However, only 12% had provided care, and 6% were aware of SANE training. Major barriers identified were the lack of SANE-trained personnel (77%), clinician disinterest (35%), physician resistance to shared roles (12%), and insufficient legal support (40%). While 62% urged policy reform, few found the curriculum socially (2.1%) or educationally (11.5%) inadequate. Nonetheless, 94% strongly supported and 6% supported SANE legislation and implementation by the Indian Nursing Council and other bodies

**Conclusions:** Nursing faculty supported the implementation of SANE education and practice, recognizing its importance to Indian society and its potential benefit for survivors of sexual trauma. This positive attitude among nurses represents a crucial step toward the successful integration of the SANE curriculum into nursing education.

Keywords: Forensic nursing, Rape, SANE, Sexual assault, Trauma-informed care

#### INTRODUCTION

Sexual violence or sexual assault is a public health crisis regardless of the location, work, home or on college campuses. This violation of someone's modesty involves any unwanted sexual contact, coercion, molestation, eveteasing, attempted rape, and completed rape. Unfortunately, sometimes, the perpetrators murder their victims after rape. Sexual assault results in harmful physical and psychological corollaries on survivor's lives.

Most sexual assaults at college campuses are associated with alcohol use by the perpetrator, victim or both.<sup>2</sup> It is evident that youngsters who had adverse childhood experiences (ACEs) are vulnerable to substance misuse issues and socially unsafe environments.<sup>3</sup> College administrators have developed strategies to raise awareness about sexual violence and prevention.<sup>4</sup> Those programs addresses various topics including gender, sexual violence, healthy relationships and prevention of sexual violence against women.<sup>5</sup> Nevertheless, one in 30 adolescent girls in India suffered sexual violence; and

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only restricted movement of these adolescents reduces the risk for nonmarital sexual violence for urban adolescent girls.<sup>6</sup> Only less than 5% these sexual assaults were reported to police, who considered them as baseless accusations and coded them as "unfounded".<sup>7</sup>

#### Rape trauma survivors

The survivors may go to emergency department; and there, the health providers should cultivate a survivorcentered and trauma-informed care (TIC) for the sexual assault survivor. The TIC focuses on recognizing the effects of trauma, paths to recovery, the manifestation of mental and physical trauma, and prevention of retraumatization.8 Therefore, clinicians should provide some control to the survivor about history taking, evidence collection, police reports, court proceeding and after-care. TIC is centered on "what happened to you" question instead of "what is wrong with you"? It is the survivor who directs the care, and the clinician must pause the routines of examination if history, pelvic exam, and evidence collection is retraumatizing the survivor. Evidence collection procedures should be explained while seeking permission to proceed with the specifics.<sup>9</sup>

#### Standards of care in the emergency room

The Indian criminal procedure code mandates that a physician conduct an examination of rape victims. However, traumatized survivors must wait for overburdened emergency room doctors, who are predominantly male. Men's attitudes toward rape survivors are highly influenced by sociocultural factors rather than the provider's job responsibilities. Most survivors of rape fear the legal system, rejection, prevailing rape myths, and the stigma attached to being raped. Incidents of sexual abuse affect the mental well-being of women, creating an environment of fear. In this context, police officers, first responders, and emergency room doctors must adopt a caring and nonjudgmental approach.

Sexual crimes against women are steadily increasing, as evidenced by statistics. 12 More than four million women in India have experienced non-spousal rape, and only 1.5% of victims report their assaults to police, with a slight increase following the high-profile fatal 2012 Delhi gang rape. 13 Interpersonal traumas such as sexual assault are associated with higher rates of post-traumatic stress disorder (PTSD), sexually transmitted diseases, pregnancy, sexual or gynecological problems, and somatic complaints such as pelvic pain. Most survivors experience significant PTSD immediately, approximately half continue to experience these symptoms 3 months later. <sup>14</sup> Meanwhile, there is a downward trend in convictions for these crimes.<sup>6,15</sup> Early sexual trauma negatively affects the development of the victim's personality, sexual life, increases alcohol and marijuana use and reckless behaviors, and leads to revictimizations.3,15

#### Gender-sensitive care

Historically, male examiners were insensitive to the psychological trauma and aftermath of sexual assault, even in developed countries. Recent literature has described the shift from the nonempathetic approach of police surgeons to a female examiner-centric, sympathetic approach. These sources suggest that female examiners may be perceived as incompatible with the judicial virtue of impartiality. 16,17 In India, "the legal system gives preference to female doctors for the examination and evidence collection from survivors of sexual assault" (p.3).<sup>12</sup> Nevertheless, the number of female doctors is significantly lower than that of female nurses. However, an examination conducted by a male doctor requires a female nurse or female family member to be present during the procedure. Evidently, female nurses are sensitive to their patient's physical and emotional needs; and can develop early rapport with victims of sexual assault. Such rapport with the survivors allows them to open up during history-taking and evidence collection" (p.4).<sup>12</sup> Many nursing professionals in India aspire to become forensic nurses, particularly sexual assault nurse examiners (SANEs), although this role is not fully established in practice or legislation.<sup>18</sup> In that context, India needs specially trained forensic nurses to examine and provide comprehensive care to sexual assault survivors. Therefore, providing appropriate training to experienced nurses is the solution for culturally appropriate, gender-sensitive care.

#### Demand for improved rape-trauma care

The demand for improved health care services for rape survivors in India is a critical issue requiring urgent attention from the government and health care community. This includes the need for specialized medical facilities, trained health care professionals, and counselling services. Addressing these needs is essential to ensure that rape survivors receive the care and support necessary to recover from the trauma of sexual violence. Experienced nurses trained and credentialed as SANEs can provide expert care to survivors. Currently, forensic nursing is gaining momentum in India following its introduction into the graduate curriculum in 2021.<sup>18</sup>

#### SANE in western countries

In western countries SANE provide TIC to the survivors, including emotional and legal support. <sup>19</sup> International Association of Forensic Nurses (IAFN) provides the curriculum and training guidelines. <sup>12,20</sup> The SANE curriculum prepares registered nurses (RNs), nurse practitioners (NPs), and forensic nurses to become competent in clinical preparation for collecting evidence, providing care, offering mental health support, and providing legal assistance, including court appearances, and witnessing. SANEs examine survivors on-site or as on-call personnel. <sup>20,21</sup> Currently, new roles and practice modes, such as tele-SANE and nurse-police crisis

interventions, are evolving to address situations where health and legal systems intersect. <sup>22,23</sup> SANE care enhances health, well-being, and legal outcomes. Consequently, post-rape-trauma care shifts the focus from prosecutorial to patient-centered care. <sup>24</sup> In the west, training in a dedicated forensic nursing curriculum enables nurses to provide appropriate services to rape survivors. <sup>20</sup> Both graduates and postgraduates can adopt this subspecialty to advance their careers. Many roles have evolved for forensic nursing in the western world, with new practice roles and standardization enabling independent practice. It is time to implement the SANE curriculum in India to enhance forensic, legal, and community responses to sexual assaults. <sup>25</sup>

#### SANE curriculum: a pilot study

The World Health Organization and the IAFN recommend forensic content in both undergraduate and graduate nursing curricula in India.<sup>25</sup> Yet, these recommendations have not been fully implemented. In this context, it is necessary to introduce education and training to manage sexual assault in India. As a first step, we assessed the readiness of health care professionals to integrate related components into the nursing curriculum. To this end, we conducted a pilot study on the readiness of nursing faculty to integrate the SANE curriculum in India.

#### **METHODS**

The pilot study was conducted among nursing faculty members from four nursing colleges in the selected district in Kerala. A total sample of 100 faculty members from the selected colleges was surveyed. We used a pretested, structured questionnaire consisting of demographic information and perspectives on readiness to integrate the SANE curriculum in India. The content validity of the questionnaire was evaluated by three research experts: one from the United States and two from India.

The principals of each selected college provided permission to conduct the survey and to schedule appointments with the faculty. Faculty participants were nursing instructors holding PhD or MSc (N) or graduate degrees in nursing. Each college of nursing had an average of 25 instructors. Researchers made a brief presentation on the proposed US-based SANE curriculum and the purpose of the pilot study. The participants took an average of 15-20 minutes to complete the survey. Data was analyzed using IBM SPSS Statistics (version 21.0; IBM Corp.). Descriptive statistics were used to summarize the characteristics of the study population, using frequencies and percentages for categorical data.

All nursing faculty members from the selected colleges who were available on the day of the survey and provided consent were included in the study. There were no exclusion criteria. The survey was done from February 2023 to March 2023. Ethical clearance for the study was

obtained from Ananthapuri Hospital and Research Institute, Thiruvananthapuram. A detailed participant information sheet was provided to all participants prior to data collection, with details of the purpose of the study, potential risks and benefits, and measures taken to ensure confidentiality and voluntary participation. Informed written consent was obtained from all participants. No incentives were offered for participation in the survey. However, participants were provided with refreshments to show appreciation for their involvement in the study.

#### **RESULTS**

The mean age of the participants was 35 years (SD±3), ranging from 25 to 51 years. Most participants (92%) were female, with 83% from private institutions, 15% from government institutions, and 2% from semigovernment institutions. Nearly 86% of participants had postgraduate degrees in nursing, 12% were graduates, and 2% were doctoral degree holders. The areas of specialization among participants included surgical medicine (25%), child health (19%), mental health (16%), obstetrics and gynecology (16%), community health (13%), nursing foundations (7%), neuroscience (3%), and critical care nursing and nursing research (1% each). Onethird of the participants had 5 or few years of nursing experience, 43% had 6 to 10 years of experience, and 24% had more than 10 years of experience. The demographic information for the study participants is presented in Table 1.

Table 1: Baseline characteristics of the study participants.

W	D(0/)
Variables	Proportions (%)
Age group (in years)	
≤35	46.9
>35	53.1
Gender	
Males	8.3
Females	91.7
<b>Employment sector</b>	
Government	14.6
Private	83.3
Semi-government	2.1
Educational qualification	•
Graduation	11.5
Post-graduation	86.5
Doctorate	2.0
Years of experience	
≤5	33.3
6-10	42.7
>10	24.0

#### Perspectives about SANE education

The majority (95%) of participants agreed that SANE training for nurses would be beneficial for the care of post-trauma survivors in terms of history-taking, evidence

collection, court witnessing, and coordination of care. Ninety-seven percent reported a high likelihood of underreporting of rape incidents. The main reasons reported were intimidation of rape survivors by the police and legal system (98%), examinations conducted by male physicians (12%), intensive examination procedures (25%), and other reasons, such as social isolation, social stigma, and inadequate family support.

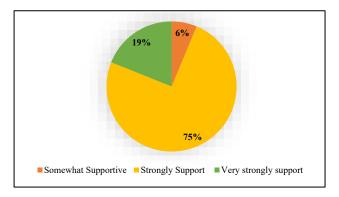


Figure 1: Support for introducing the SANE curriculum in India.

Only 6% of participants were aware of the SANE curriculum before our introduction, and all participants expressed interest in learning more about it. According to the survey results, 94% of participants "strongly supported" the introduction of the SANE curriculum, whereas 6% "supported" it (Figure 1) When asked about timely care for rape victims, 21% reported no possibility of receiving such care in the current situation, 57% reported receiving it sometimes, and 6% reported receiving it mostly or always. Almost 88% of respondents believed that delayed evidence collection led to adverse outcomes in court cases.

A higher proportion (85%) reported that having a dedicated person to care for rape trauma survivors is a good option in the typically busy emergency rooms of the Indian health care system. Additionally, participants suggested strengthening the mental and emotional support system for rape victims. They proposed that a nurse who has received SANE training and is of the same gender as the victim would be the best fit for managing such situations in a busy health care facility. Some also stated that a comprehensive approach addressing both physical and mental well-being would be effective in helping survivors recover and return to their daily lives. They also agreed that properly trained and certified SANE practitioners would ensure better support for rape victims. Only 12 participants had experience caring for rape survivors in their nursing careers. Many participants noted that, in their settings, the number of emergency physicians was insufficient to provide prudent care to rape victims. Most participants (77%) stated that the SANE curriculum is a crucial step toward managing rape survivors in nursing practice. However, 2.1% of respondents found the SANE curriculum to be socially inappropriate, 11.5% considered it educationally insufficient, and 9.4% believed it was outside the scope of nursing practice (Table 2).

**Table 2: Perspectives about SANE education.** 

Perspectives about SANE education	%	
Reported perceived benefit of SANE training	94.8	
for post-trauma care	94.8	
Impact of delayed evidence collection on case		
outcomes		
Sometimes	12.5	
Most of the time	62.5	
Always	25.0	
Perceptions of the SANE curriculum*		
Socially Inappropriate	2.1	
Educationally insufficient	11.5	
Outside of nursing practice	9.4	
Stepping into medical practice	71.9	
Perceived barriers in implementing SANE		
curriculum**		
Not enough SANEs to teach	77.1	
Experienced Physicians are not willing to teach	11.5	
There is general lack of interest in the public issues	35.4	
Concerns about SANE curriculum in the Indian context**		
May is not supported by medical community	45.8	
May is not supported by police departments	10.4	
May is not supported by the legal system	39.6	
May need healthcare policy changes		
Concerns about SANE in nursing education**		
Inadequate number of female nurses in certain states 4		
Insufficient models to follow	56.3	
Transportation and safety issues for female nurses		

<sup>\*</sup>Percentages do not add to 100 due to missing cases,

### Perceived barriers and concerns in implementing the SANE curriculum

The most reported barrier was the lack of SANE-trained individuals (77%), followed by an anticipated general lack of interest from clinicians (35%) and reluctance among experienced health care professionals to share their knowledge (12%). Many participants raised concerns about the lack of support from various institutions in addressing the issue. Survey results indicated that 46% of respondents expressed concerns about the level of support from the medical community, whereas 10% indicated similar concerns regarding support from the police department. Additionally, 40% expressed concerns about the lack of support from the legal system, and 62% believed there is an urgent need for policy changes to address the issue.

<sup>\*\*</sup>Percentages do not add to 100 because of multiple responses.

Other reported implementation difficulties at the system level included an inadequate number of female nurses in certain states (46%), insufficient models to follow (56%), transportation and safety concerns for female nurses (52%), fear of lack of support from physicians, and delays in integrating the curriculum into nursing education. Approximately 73% of participants believed that the SANE curriculum could be implemented in Indian settings without significant alterations. Fourteen percent of respondents suggested extending the length of the curriculum and adding Indian-specific content, whereas 6% recommended reducing the length of the curriculum for implementation in the Indian context (Figure 2). Figure 3 presents the preferred faculty for delivering the initial SANE curriculum. The majority of respondents (35.4%) favored SANEs from the United States or other countries. Doctors were the second most preferred option at 31.3%, followed closely by nurses at 28.1%. Notably, only 15.6% of respondents preferred an online or hybrid program format.

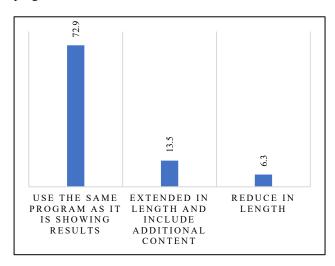


Figure 2: Suggested modifications to adapt the US SANE model for India.

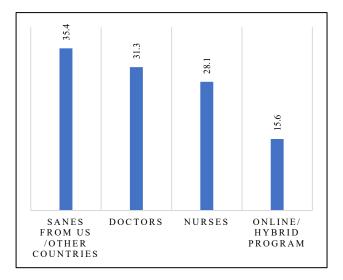


Figure 3: Preferred faculty for initial SANE curriculum delivery.

#### **DISCUSSION**

The purpose of this pilot study was to understand the readiness of nurses to integrate the SANE curriculum into nursing education. Three key findings emerged from the study. The findings indicated that nurses, particularly nursing instructors, are prepared to adopt this innovative curriculum to address multiple challenges related to rapetrauma care. The major barriers identified include underreporting by victims, delayed care in busy emergency departments dominated by male physicians, intimidation of victims by the legal system, and safety concerns for practitioners. Most participants were initially unfamiliar with the SANE curriculum but expressed a strong interest in receiving specialized training in medical, legal, and ethical aspects to effectively address the needs of sexual assault survivors following its introduction. A few participants expressed concern that SANE training may encroach on medical practice and noted a lack of support from the medical community. The findings indicate a lack of both SANE program models and SANE practitioners available for training in the Indian setting.

Comprehensive post-trauma care requires a professional relationship between physicians and nurses in criminal investigations.<sup>26</sup> An ongoing study on multicomponent training to improve knowledge and skills for managing sexual assault in India is expected to have promising implications for the nursing community. 12 India does not have sexual assault referral centers (SARCs), as seen in the global context, and survivors are cared for by health care centers and state-run hospitals. Strengthening forensic nursing education in the country is warranted. SANE practice, as perceived by a few participants, does not encroach on medical practice but advances nursing practice. In India, curricular innovation to serve the population in need is essential to enhance the professional visibility and social image of nurses. There is a wider scope for forensic nursing in India, with nurses able to take roles in medico-legal investigations and evidence collection, mental health counselling, and pregnancy prevention, specifically after a rape trauma. In western countries, nurses provide emergency and trauma care, toxicology, crime scene investigation, and correctional services. SANE education is recognized as providing high-quality post-sexual-assault care; these services are limited even in Western countries, with urban-rural disparities.<sup>21</sup> Therefore, equity in care for survivors of sexual assault requires increased investments in SANE training and coverage.<sup>27</sup>

Establishing the SANE curriculum in India is essential for public health, professional advancement, public visibility, and job satisfaction. Graduates of baccalaureate nursing programs have an adequate scientific foundation for this role. The BSc (N) program consists of 10 years of high school, 2 years of basic sciences (physics, chemistry, and biology), and 4 years of nursing, including anatomy. The nursing curriculum in India is prescribed and regulated by

the Indian Nursing Council (INC). According to the Kerala University of Health Sciences (KUHS) website, BSc in nursing students complete 60 clock hours of anatomy, equivalent to three credits.<sup>28</sup> Additionally, they must take midwifery, which enhances female anatomy competence.

The curriculum proposed in this study is modelled after the US SANE preparation, with 40 hours of theoretical components and 150 hours of clinical practicum (see Appendix 1).

One potential limitation of the study is that the sample is a homogeneous group with a similar educational background and a personal stake in advancing nursing practice. Data were collected from Thiruvananthapuram, the capital of Kerala state in India. Kerala has the highest female literacy and a social development index comparable to Western countries. Therefore, the perspectives of participants may differ from those of the broader Indian community.

Kerala incurs the highest out-of-pocket health care expenditure; more than 10% of people's income is spent on maintaining their health.<sup>29</sup> Kerala is a global model for commendable health outcomes at a low cost. 30, 31 Despite progress, Kerala remains economically limited, with service-based revenues and high educated unemployment. This social development without economic development is known as the "Kerala phenomenon". 32 Yet, with a strong health care system, sexual assault of adolescent girls has a 17.5% prevalence in this state in dysfunctional families, where paternal substance abuse and lack of maternal support serve as contextual predictors of childhood sexual abuse.<sup>33</sup> Despite the limitations, the findings in this study indicate that the nursing community is ready to integrate the SANE curriculum within the Indian context. Among the states in India, Kerala is the most conducive environment for its implementation, highlighting the potential for broader integration of specialized forensic nursing education across the country.

#### **CONCLUSION**

Nursing faculty members reported interest in learning about SANE education. They are receptive to introducing this specialized training for positive outcomes for both the survivors and for the profession. At present, education and training to manage sexual assault is not well integrated into the nursing curriculum in India. The faculty expressed the need for support from SANE-trained individual nurses and physicians in the initial stages of implementation. This specialized training will enhance the professional visibility of nurses and encourage prudent practice. Nurses are well-prepared to assume this advanced practice role, given appropriate training, professional legislation, and support from medical, legal, and law enforcement agencies. This study initiated an understanding of the SANE curriculum and

practice in the west, as well as the readiness and potential for its implementation by the nursing faculty in India.

Funding: No funding sources Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee of Ananthapuri Hospitals and Research Institute, Thiruvananthapuram, Kerala

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Cite this article as: Simon EB, Mini GK, Lordson J. Readiness to integrate sexual assault nurse examiner curriculum: pilot study results on nurses' perspectives in an Indian context. Int J Community Med Public Health 2025;12:4278-85.

#### **APPENDIX 1**

## US Model SANE Curriculum Content: The synopsis of the simulated practicum focus (adopted from IAFN, forensic nurses.org)

Topics	
Female anatomy	Collection of specific evidentiary specimens
Mechanism and appropriate location of action of toluidine blue dye application catheter for hymen visualization	Proper body orifice and surface collection of evidence
Speculum insertion manipulation, and removal technique to visualize cervix	Packaging of evidentiary materials
Proper medium for culture collection for STIS	Maintenance of chain of custody of evidentiary materials
Clinical components of clinical photography	sealing of evidentiary materials
Effective use of camera to document findings	Sexual assault-specific plan of care based on the overall assessment and diagnosis
Key components of effective history taking	Care options to the simulated patient
Complete head to toe assessment	Pregnancy prevention
Adolescent/adult for the urogenital exam	