Development and Evaluation of an Elder Abuse Forensic Nurse Examiner e-Learning Curriculum

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Abstract
In Ontario, Canada, there is a need for an easily accessible training for forensic nurse examiners on the provision of care for abused older adults. In this study, our objective was to develop and evaluate a novel elder abuse nurse examiner e-learning curriculum focused on improving the care provided to older adults. The curriculum was launched on an online learning management system to forensic nurses working across Ontario’s hospital-based violence treatment centers in June 2019 and evaluated using pre- and post-training questionnaires that measured self-assessed changes in knowledge and skills-based competence related to providing elder abuse care. There were significant improvements pre- to post-training in self-reported knowledge and competence across all core content domains: Older Adults and Abuse; Documentation, Legal, and Legislative Issues; Interview with Older Adult, Caregiver, and Other Relevant Contacts; Initial Assessment; Medical and Forensic Examination; and Case Summary, Discharge Plan, and Follow-Up Care. As the curriculum enhanced the knowledge and skills associated with caring for abused older adults, it may have implications for training forensic nurse examiners and associated staff working in more than 25 countries internationally.

Keywords
Canada, e-learning curriculum, elder abuse, forensic nursing, older adults, questionnaires, training

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Introduction
One in six older adults globally are affected by elder abuse (Yon et al., 2017). In a systematic review of 52 prevalence studies conducted in community settings across 28 countries, psychological abuse was the most common type of elder abuse (11.6%), followed by financial abuse (6.8%), neglect (4.2%), physical abuse (2.6%), and sexual abuse (0.9%) (Yon et al., 2017). In the United States, a national study reported that 1 in 10 older adults have experienced abuse in the past year (Acierno et al., 2010). A Canadian population-based study similarly estimated that almost 1 in 10 (8.2%) older adults in Canada experienced some form of abuse or neglect in 2014, which amounted to 766,247 older Canadians (McDonald, 2018).

According to a recent systematic review of 19 studies of over 200,000 participants conducted in the United States, Australia, Germany, Sweden, Netherlands, Hong Kong, and China, older adults experiencing abuse are at higher risk of both mortality and morbidity, including chronic pain, gastrointestinal symptoms, depressive symptomatology, anxiety, and suicidal ideation (Yunus et al., 2019). Those experiencing abuse are also more likely to be hospitalized, visit an emergency department, and use behavioral health services (Yunus et al., 2019). A recent review of various types of responses to elder abuse across the globe indicated that hospitals offer a promising point for intervention (Rosen et al., 2019). However, a recent European study found that the level of knowledge and skills of many healthcare professionals working in hospitals specifically related to detecting and responding to elder abuse is limited, and further education and training has been recommended (Corbi et al., 2019).

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Across Ontario there are currently 37 hospital-based Sexual Assault/Domestic Violence Treatment Centres (SA/DVTCs), staffed primarily by forensic nurse examiners who provide acute care to persons of all ages who are victims of intimate partner violence or have been sexually assaulted (Ontario Network of SA/DVTCs, 2020). This care includes crisis intervention/emotional support, testing and treatment for sexually transmitted infections, emergency contraceptive options, assessment and documentation of injuries, forensic evidence collection, risk assessment and safety planning, and follow-up care and referrals to community agencies and other services for additional support (Du Mont et al., 2016). However, until recently, there has been no provision of standardized training on care for abused older adults for forensic nurse examiners working within these centers.

To address this gap, an in-person elder abuse nurse examiner curriculum was developed to build upon the skills and expertise of these nurses who had already completed 16 modules of online forensic nursing training focused on vicarious trauma, trauma informed care, crisis intervention, medico-legal evidence collection, sexually transmitted infections and pregnancy, and judicial proceedings, among other topics (Du Mont et al., 2016). The curriculum was developed based on a systematic review of recommendations related to hospital-based elder abuse interventions and a Delphi consensus survey to develop skills-based competencies for forensic nurses (Du Mont, Macdonald, et al., 2015; Du Mont et al., 2016). The resulting 47 competencies formed the core of the curriculum which was drafted by experts in medical education, nursing, and elder abuse, as well externally reviewed by forensic nurse leaders in the field. The final curriculum contained six core content domains on the care of abused clients aged 65 or older: Older Adults and Abuse; Documentation, Legal, and Legislative Issues; Interview with Older Adult, Caregiver, and Other Relevant Contacts; Assessment; Medical and Forensic Examination; and Case Summary, Discharge Plan, and Follow-Up Care (see Du Mont et al., 2016 for listing of competencies).

The in-person elder abuse nurse examiner curriculum was evaluated with 18 forensic nurses from across Ontario on October 2, 2015. The training led to statistically significant improvements across all areas of knowledge and skills tested (Du Mont et al., 2017). Given its success, and to broaden its reach and increase its uptake, an e-learning version of the curriculum was developed based on the same 47 competencies and six core content domains. The primary objective of the current study was to evaluate the effectiveness of the e-learning curriculum in improving self-reported knowledge and expertise and competence related to the care of abused older adults among forensic nurses working across Ontario’s SA/DVTCs. A secondary objective was to assess learners’ satisfaction with the curriculum. This innovative educational intervention could ultimately improve the quality of life and health outcomes for abused older adults by enhancing the response to elder abuse.

**Methods**

This study was approved by the Research Ethics Board at Women’s College Hospital (REB #2018-0170-E).

**Development of the e-Learning Curriculum**

A detailed review of the in-person curriculum was undertaken, based on feedback from participants in its evaluation, with the content of each of the six domains also examined in-depth for integrity of the material, flow of material, relevance of material to learning objectives, and the addition of materials that could enhance learning (e.g., more case studies, increased focus on legislation and legal issues; Du Mont et al., 2017). The curriculum was also updated (e.g., references, out-of-date information) and converted into a narrated and engaging, interactive format in Storyline 360. A series of specific interactive elements were created and applied throughout the Introduction, Conclusion, and six modules to encourage learners’ reflexivity, engagement, immediate application of learned knowledge (e.g., handling of challenging situations, making decisions), and retention of knowledge. These elements included embedded content, information boxes, diagrams, game-based learning activities, case studies, multiple choice questions, key points, and additional resources. The process was guided by relevant principles of multimedia learning (i.e., coherence, signaling, redundancy, spatial contiguity, temporal contiguity, segmenting, pre-training, modality, multimedia, and personalization; Mayer, 2008). The curriculum was reviewed by two external experts and minor revisions made based on their recommendations related to clarity and flow of material.

The final e-learning elder abuse nurse examiner curriculum comprised 3.5 to 4 hrs of core content (see Table 1 for Content Outline). This curriculum was asynchronous, with all material pre-recorded. The learner could complete the curriculum at their convenience, starting and stopping as required.

**Implementation of the e-Learning Curriculum**

The e-learning curriculum was exported into the learning management system, Docebo, where SA/DVTC nurses who had already completed online forensic nursing training were granted access in June 2019 (Ontario Network of SA/DVTCs, 2018). Each nurse who was invited to complete the curriculum was given 6 weeks to do so, with a 2-week extension offered to those who required additional time. Data were collected for the evaluation for approximately 12 months, during which time the curriculum was made available to any new nurses who joined the network and met requirements. After completion of all curriculum modules, learners...
Table 1. Elder Abuse Nurse Examiner e-Learning Curriculum Outline.

| Introduction                                      |
|--------------------------------------------------|
| Background to curriculum                         |
| Multidisciplinary approach                       |
| Guiding principles                               |
| Curriculum features                              |
| Curriculum overview                              |
| Module 1: Older Adults and Abuse                 |
| Aging population                                 |
| Definition of elder abuse                        |
| Types of elder abuse                             |
| Prevalence of elder abuse                        |
| Contextual and contributing factors              |
| Victims of elder abuse                           |
| Perpetrators of elder abuse                      |
| Acts of elder abuse                              |
| Module 2: Documentation, Legal, and Legislative Issues |
| Documentation                                    |
| Legislation relevant to elder abuse              |
| Situations requiring mandatory reporting         |
| Capacity and consent                             |
| Health Care Consent Act                          |
| Consent to treatment                             |
| Substitute Decisions Act                         |
| Determining the Substitute Decision Maker        |
| Collection of evidence from person unable to consent |
| Non-criminal and criminal acts of elder abuse    |
| Module 3: Interview with Older Adult, Caregiver, and Other Relevant Contacts |
| Assessing capacity for consent                   |
| Responsibilities if client found incapable       |
| Parameters of confidentiality                    |
| Barriers to disclosure                           |
| Creating an environment that supports disclosure |
| Fostering a strong therapeutic relationship       |
| Providing culturally competent and sensitive care |
| Interviewing techniques to support disclosure    |
| Gathering important information                  |
| Interviewing caregivers and/or other relevant contacts |
| Module 4: Initial Assessment                     |
| Main types of elder abuse                        |
| Signs of elder abuse                             |
| Assessment questions                             |
| Module 5: Medical and Forensic Examination       |
| Health history                                   |
| Considerations for head-to-toe assessment        |
| Initiating the examination                       |
| Documenting physical findings                    |
| Standard practices                               |
| Additional considerations in sexual assault cases |
| Options for reporting to police                  |
| Module 6: Case Summary, Discharge Plan, and Follow-Up Care |
| Creating a case summary                          |
| Planning for discharge                           |
| Considerations for safety planning               |
| Follow-up with older adult                       |
| Case review teams                                |
| Testifying in guardianship proceedings           |
| Conclusion                                       |

received an automatically generated certificate of completion.

Evaluation of the e-Learning Curriculum

Before accessing the curriculum, nurses were asked to consent to participate in its evaluation as part of the pre-amble to a pre-training questionnaire. The consent form described the rights of study participants, the data being collected, and how the data would be used (e.g., only deidentified data would be used in any presentations/publications). After completing the curriculum, they were asked to complete a post-training questionnaire.

On both the pre- and post-training questionnaires, participants were asked to rate their overall level of expertise related to elder abuse on a five-point Likert scale (1 = low level, 2 = low-mid level, 3 = mid level, 4 = mid-high level, and 5 = high level). They were also asked to rate their level of agreement to five statements focused on general knowledge of elder abuse and the 47 skills-based competency statements, organized into the six core content domains, on a five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, and 5 = strongly agree). Additionally, to measure competence more directly in a clinical setting, a vignette was created that comprised a hypothetical case of an abused older adult and associated questions (see Supplemental File 1).

The pre-training questionnaire captured participant sociodemographic characteristics, including age, sex, ethnicity/racial background (most identify with), and highest level of education achieved, as well as work experience such as years of experience as a nurse working within the Ontario Network of SA/DVTCs and provision of direct clinical care in that role to clients aged 65 years or older.

The post-training questionnaire also captured participants’ level of satisfaction with the content and delivery of the curriculum on a five-point Likert scale (1 = very dissatisfied, 2 = dissatisfied, 3 = neither dissatisfied nor satisfied, 4 = satisfied, and 5 = very satisfied): clarity of material, material is engaging and kept attention, comprehensiveness of material in addressing the critical issues of elder abuse in the context of role working as a nurse within the Ontario Network of SA/DVTCs, extent to which the right amount of practical information was presented, and appropriateness of material for level of knowledge and experience.

Data Analysis

Descriptive statistics including counts and proportions were calculated for sociodemographic characteristics, work experience, and satisfaction with the curriculum (valid percentages calculated based on the total number of respondents to each question). Paired t-tests were used to compare results from pre- to post-training for mean Likert ratings of expertise, mean Likert ratings of knowledge and competence within each core content.
domain, and mean total score on the clinical vignette (based on the number of correct responses to five questions). Statistical significance was set at \( p < .05 \). All analyses were conducted using IBM SPSS Statistics for Windows, Version 25.0.

**Results**

Fifty-four nurses completed the e-learning curriculum and filled out the pre- and post-training questionnaires.

**Participant Characteristics**

All participants indicated that their sex was female. Half (50.0%) were aged 25 to 34 years (see Table 2). Participants identified mostly as white/caucasian (90.6%) and indicated that the highest level of education that they had completed was an undergraduate degree (69.2%). Approximately two in five (40.4%) had provided direct clinical care to clients 65 years of age or older in their role as a SA/DVTC nurse.

**Changes in Expertise, Knowledge, and Competence from Pre- to Post-Training**

Participants’ perception of their expertise related to care of abused older adults improved significantly from pre- to post-training (Mean \( M = 2.9 \), Standard Deviation [SD] = 1.11 vs. \( M = 3.8 \), SD = 0.80, \( p < .001 \), \( N = 54 \)), as well as their perceived knowledge and competence across all core content domains of the e-learning curriculum: Older Adults and Abuse (\( M = 3.9 \), SD = 0.58 vs. \( M = 4.4 \), SD = 0.51, \( p < .001 \), \( N = 53 \)); Documentation, Legal, and Legislative Issues (\( M = 3.2 \), SD = 0.65 vs. \( M = 4.1 \), SD = 0.48, \( p < .001 \), \( N = 54 \)); Interview with Older Adult, Caregiver, and Other Relevant Contacts (\( M = 3.7 \), SD = 0.48 vs. \( M = 4.2 \), SD = 0.47, \( p < .001 \), \( N = 52 \)); Initial Assessment (\( M = 3.6 \), SD = 0.73 vs. \( M = 4.3 \), SD = 0.54, \( p < .001 \), \( N = 54 \)); Medical and Forensic Examination (\( M = 3.9 \), SD = 0.52 vs. \( M = 4.3 \), SD = 0.48, \( p < .001 \), \( N = 52 \)); and Case Summary, Discharge Plan, and Follow-Up Care (\( M = 3.6 \), SD = 0.54 vs. \( M = 4.2 \), SD = 0.50, \( p < .001 \), \( N = 54 \)). Scores on the clinical vignette also improved from pre- to post-training (\( M = 3.1 \), SD = 1.01 vs. \( M = 3.5 \), SD = 1.07, \( p = .003 \), \( N = 53 \)).

**Satisfaction with the e-Learning Curriculum**

Most participants were satisfied/very satisfied with the clarity of the material (\( n = 48/53 \), 90.6%), ability of the material to engage and keep their attention (\( n = 39/51 \), 76.5%), comprehensiveness of the material in addressing critical issues in elder abuse (\( n = 47/52 \), 90.4%), extent of practical information provided in the curriculum (\( n = 46/52 \), 88.5%), and appropriateness of the material for level of knowledge and experience at the start of curriculum (\( n = 47/52 \), 90.4%).

| Variable | \( n \) | % |
|----------|--------|---|
| **Age group (N=54)** | | |
| 19–24 years | 4 | 7.4 |
| 25–34 years | 27 | 50.0 |
| 35–44 years | 11 | 20.4 |
| 45–59 years | 11 | 20.4 |
| 60+ years | 1 | 1.9 |
| **Sex (N=52)** | | |
| Female | 52 | 100.0 |
| Male | 0 | 0 |
| Other | 0 | 0 |
| **Ethnicity/racial background (most identify with) (N=53)** | | |
| Arab/West Asian | 0 | 0 |
| Black | 0 | 0 |
| Chinese | 0 | 0 |
| Filipino | 1 | 1.9 |
| Indigenous | 1 | 1.9 |
| Japanese | 0 | 0 |
| Korean | 0 | 0 |
| Latin American | 1 | 1.9 |
| South Asian | 0 | 0 |
| South East Asian | 0 | 0 |
| White/Caucasian | 48 | 90.6 |
| Other (mixed, French Canadian) | 2 | 3.8 |
| **Highest level of education (N=52)** | | |
| Hospital-based nursing program | 1 | 1.9 |
| Community college | 9 | 17.3 |
| Undergraduate degree (e.g., BScN) | 36 | 69.2 |
| Graduate degree (e.g., MN) | 6 | 11.5 |
| **Time in role as SA/DVTC nurse (N=52)** | | |
| <1 year | 18 | 34.6 |
| 1–2 years | 12 | 23.1 |
| 3–5 years | 12 | 23.1 |
| 6–9 years | 5 | 9.6 |
| 10+ years | 5 | 9.6 |
| **Ever provided direct clinical care to an older adult aged 65 or older as SA/DVTC nurse (N=52)** | | |
| Yes | 21 | 40.4 |
| No | 31 | 59.6 |

Note. SA/DVTC = Sexual Assault/Domestic Violence Treatment Centre.

**Discussion**

It is critically important that healthcare providers are well trained to address the complex needs of abused older adults and prevent their further victimization (Rosen et al., 2019). This e-learning curriculum showed promise in training forensic nurses across Ontario to appropriately respond to elder abuse. Nurses’ average ratings of their perceived level of knowledge/expertise in caring for older adults increased from mid to mid-high following training. Their self-reported knowledge and competence also improved post-training across the core content domains of the curriculum: Older Adults and Abuse; Documentation, Legal, and Legislative Issues; Interview with Older Adult, Caregiver, and
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Ethics Statement
This study was approved by the Research Ethics Board at Women’s College Hospital (REB #2018-0170-E).

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Supplemental Material
Supplemental material for this article is available online.

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