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Patient Safety in Ambulatory Hysteroscopy

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Executive Summary: Staff Education Project

Patient Safety in Ambulatory Hysteroscopy

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Summary

This Doctor of Nursing Practice (DNP) project was a staff education designed to improve nurses' knowledge and confidence in caring for women undergoing ambulatory hysteroscopy. Its importance is justified by its potential to enhance safety and efficiency in ambulatory gynecologic care. The problem identified is inconsistent adherence to patient selection guidelines for ambulatory hysteroscopy. The guiding question was, "Does the implementation of staff education specific to best practices in caring for women undergoing ambulatory office hysteroscopies improve staff knowledge and confidence in delivering care to this patient population?" The purpose of the project was to provide evidence-based staff education to strengthen nurses' understanding of patient selection criteria and increase their confidence in applying these standards. A mixed-methods approach was used, collecting quantitative data from pre- and post-assessments of knowledge and qualitative data from participant feedback to identify key themes. Post-implementation results indicated an average increase of 89% in knowledge scores. Materials included educational resources, policy, guidelines, workflow reviews, and pre- and post-knowledge assessments aligned with ACOG standards. The project concluded that targeted staff education can significantly enhance nursing competence in patient selection. Recommendations include expanding education across departments, integrating refresher training, and evaluating the impact on patient outcomes. This project highlights the crucial role of nursing education in ensuring patient safety and procedural appropriateness. Additionally, it contributes to positive social change by improving women's health outcomes, promoting equitable access to safe ambulatory procedures, and fostering a culture of inclusivity and clinical excellence.

Background

The current DNP project is a staff education focused on improving nurses' knowledge and confidence in caring for women undergoing ambulatory hysteroscopy. It was designed to enhance patient safety through targeted education on evidence-based patient selection criteria and clinical decision-making. In general, the reason for this practice change was to improve patient safety by refining patient selection criteria for ambulatory hysteroscopy. An ambulatory hysteroscopy is a procedure used to detect abnormalities in the uterus. It can be performed in either an outpatient or an operative surgical setting. Using the outpatient setting simplifies treatment, lowers costs, improves preoperative counseling, and helps prevent unnecessary procedures and exposure to invasive anesthesia (Jeong et al., 2025). The purpose of this staff education project was to improve patient safety by enhancing nurses' knowledge of patient selection criteria for ambulatory hysteroscopy and the appropriate steps to follow when a patient does not meet eligibility criteria.

The practice-focused question for this project was "Does the implementation of staff education specific to best practices in caring for women undergoing ambulatory office hysteroscopies improve staff knowledge and confidence in delivering care to this patient population?" Some data show that patient selection falls outside guidelines and practices in ambulatory hysteroscopy. With the migration of patients undergoing surgical procedures in the ambulatory setting, selecting the appropriate patient is crucial. Patient selection can impact safety, efficiency, and outcomes. Identifying suitability for ambulatory hysteroscopy is a process that depends on the surgical procedure, patient characteristics, and anesthesia technique (Rajan et al., 2021). The type of setting, whether

ambulatory or operative, as well as social factors such as the individual's responsibility for patient transportation, can also influence patient selection. The purpose of this project was to provide staff education to nurses performing hysteroscopy procedures in collaboration with providers, aiming to increase knowledge and confidence in selecting patients based on specific criteria, ultimately enhancing patient safety.

The evidence that supported this project was drawn from the local DNP site, where staff were not consistently following patient selection guidelines, and limited knowledge or confidence in applying criteria were identified as key gaps in practice. This identified gap placed a significant responsibility on providers, nurses, and hospital services to prevent delays, unplanned admissions, and unexpected adverse events. Various healthcare organizations have demonstrated success in using patient selection criteria to reduce elective case cancellations, unplanned hospital admissions, and major complications, including morbidity and mortality (Muralidhar et al., 2023). When all staff consistently apply the patient selection criteria, they serve as essential clinical guidance for appropriate patient triaging in managing an increasing patient volume. Therefore, as the patient population's volume and complexity grow, it becomes even more critical to follow established patient selection criteria.

Appropriate patient selection for ambulatory hysteroscopic procedures in women depends on knowledge and understanding of pathology, the procedure, provider skill, expertise, and, most importantly, assessment of comorbidities (ACOG, 2023). For example, patients with certain medical conditions, such as sleep apnea, may not be suitable candidates for ambulatory sedation without the presence of an anesthesia team. Consideration for performing a hysteroscopy in an alternative setting, such as the

operating room or ambulatory clinic, should be given to anxious patients who have previously failed or cannot tolerate an outpatient procedure.

The evidence in the literature supporting this change in practice demonstrates the effectiveness of new approaches compared to existing methods, primarily through reviews and meta-analyses (Brunt & Morris, 2023). According to Chrisostomos et al. (2023), the success rate is 98%, and it is well accepted by patients, indicating increased use of patient selection criteria. Reduced complication rates have also been shown, which improves patient outcomes and overall safety (Chrisostomos et al., 2023). Improved pre-procedure information, such as patient selection criteria, leads to enhanced patient satisfaction and safety following ambulatory hysteroscopy (Setty et al., 2020).

Evidence for the project was gathered through thorough searches of the Walden University library and other medical databases. Forty full-text, peer-reviewed articles from EBSCO, Google Search Engine, CINAHL, MEDLINE, ProQuest, and NCBI were reviewed; among these, 12 articles met the criteria and were included after being critically appraised using the Johns Hopkins Nursing Evidence Practice Tool to determine their level and quality. Six articles were Level 2, one was Level 4, and five were Level 5.

Research by Crowley et al. (2022), Cingiloglu et al. (2022), and Vitale et al. (2021) showed that pre-procedure counseling and patient assessment for ambulatory hysteroscopy led to better outcomes than in cases where patients were not screened, received a reminder call, or were screened correctly. A systematic randomized controlled trial by Hou et al. (2024) highlighted that improving pre-procedure screening yields the best post-procedure outcomes without incurring high costs. Additionally, studies have

shown improved outcomes, including better recovery, reduced pain, and reduced anxiety (Buzzaccarni et al., 2022; Nash et al., 2024; Malu et al., 2023). Furthermore, full disclosure of ambulatory hysteroscopy and the clinical setting must be provided so patients can make a well-informed decision before signing consent forms (DeSilva et al., 2024; Mahmud et al., 2021).

Staff Education Project Development

The staff participants in this project included nurses working in the ambulatory setting. Ten nurses met criteria to invite to this staff education and seven were able to participate and complete the training. All seven participants completed the pre-knowledge assessments, and five completed the post-knowledge assessment.

The procedures used to develop this project were grounded in an evidence-based approach. I developed the staff education content using an evidence-based method that combined current clinical guidelines and recommendations for hysteroscopy patient selection. The educational materials selected for the project were based on resources from reputable professional organizations, such as the American College of Obstetricians and Gynecologists (ACOG) and the Association of Peri-Operative Registered Nurses (AORN). Including these references ensured that the content was fully aligned with recognized standards of care and safety protocols. The project site's OB/GYN and medical director served as a subject matter expert for this project. The subject matter expert and preceptor are experts in outpatient hysteroscopy and carefully reviewed all educational content to ensure it met criteria for accuracy, clinical relevance, and applicability to the ambulatory setting.

The materials developed for the project were designed using Bloom's taxonomy

principles to measure both recall (knowledge) and application (clinical judgment; Adams, 2015; Bloom et al., 1956; Anderson & Krathwohl, 2001). The selected instructional tools and methodologies were versatile, aimed at helping nurses acquire the necessary knowledge. They were delivered through multiple instructional approaches, providing the best opportunity for staff to address any potential knowledge gaps. The nurses and I, as the DNP student, evaluated policies and workflows that outlined patient selection criteria, contraindications, and clinical decision-making pathways. The conversation and feedback were robust and facilitated in morning huddles where communication was not cluttered with excessive information, allowing me to deliver essential facts without overwhelming participants with too much new data.

Another document provided was a quick-reference checklist for nurses to use during patient intake and screening, which would help them determine if the patient needed the procedure. Additionally, I created pre- and post-knowledge assessment tools consisting of multiple-choice questions focused on key learning objectives. The questions were adapted from evidence-based literature and peer-reviewed educational resources to ensure validity and consistency in measuring knowledge gain. The pre- and post-knowledge assessments were the core components of the project.

The implementation of this project included the delivery of the education in person to all participants. A small group format enabled active engagement and productive discussion. The sessions took place during morning huddle to maximize attendance and minimize workflow disruption. For each nurse, I provided a brief introduction outlining the project's purpose, the voluntary nature of participation, and the confidentiality of responses.

The pre-knowledge assessment was administered immediately before the education session, and the post-assessment was given at the end of the session, after all teaching was completed. To maintain participants' anonymity, they were instructed to use their mother's birthday month and date, the same on both assessments. This process allowed for comparative analysis of both the pre- and post-knowledge assessments. The participants placed their assessments into sealed envelopes upon completion.

The process for collecting the pre- and post-knowledge assessments was designed to ensure consistency, reliability, and anonymity. Each participating nurse completed a pre-knowledge evaluation before starting the educational session. The pre-knowledge assessment information evaluated their baseline understanding of hysteroscopy patient selection criteria. After the education session, nurses completed the identical post-knowledge assessment using the same identifiers and exact submission process as they did for the pre-knowledge assessment.

The analysis included both descriptive and comparative analysis. Descriptive analysis summarized participant demographics, such as years of experience and role in the ambulatory unit, and reported mean scores, frequency distributions, and overall percentage changes between pre- and post-assessment results (Cooksey, 2020). Comparative analysis involved evaluating individual and group differences between pre- and post-test scores to assess the effectiveness of the educational session (Mahendra & Sahana, 2025). The mean score improvement provided quantitative evidence of learning outcomes, while responses to multiple-choice questions were qualitatively reviewed to identify themes related to clarity, remaining uncertainties, or suggestions for future sessions (Hou et al., 2024).

The data were analyzed using the following process: first, pre- and post-assessment scores were compiled and entered a spreadsheet for review. The comparative analysis included overall cumulative pre- and post-assessment scores, but also on individual question level responses to determine areas for improvement. Analyzing participants' comments provided evidence of recurring themes regarding the session's clarity, relevance, and applicability to clinical practice. The combined use of quantitative and qualitative data provided a comprehensive view of the project's overall educational impact. This mixed-methods approach ensured that both measurable knowledge outcomes and subjective experiences were considered to guide future improvements to the staff education program.

Results

The results of this staff education project, as shown in Table 1, were positive, indicating a significant improvement in nurses' knowledge about ambulatory hysteroscopy patient selection criteria. Post-implementation assessments showed an average 89% increase in knowledge scores compared to baseline, with fluctuations between 60% and 133%. Two nurses out of five achieved an excellent score by answering all questions correctly at baseline. Overall, the post-assessment demonstrated a deeper understanding among nurses of evidence-based patient selection, contraindications, and pre-procedure preparation. Additionally, participants reported increased confidence in communicating with patients and physicians about hysteroscopy eligibility, further highlighting the effectiveness of the educational intervention.

Table 1*Comparative Table of Pre- and Post-Assessment Knowledge*

Participant	Number of correct answers at a baseline (out of 8)	Number of correct answers after the educational session (out of 8)	Percentage of knowledge increase
#1	8	8	-
#2	5	8	60%
#3	3	7	133%
#4	8	8	-
#5	4	7	75%

This project had a significant impact on the organization by improving clinical skills and procedural efficiency in the ambulatory care setting. It improved nurses' ability to identify suitable candidates for ambulatory hysteroscopy, leading to better resource utilization, fewer scheduling errors, and improved patient safety. Limitations of the project included a small sample size and limited participation due to staffing constraints. Additionally, the short duration restricted the assessment of long-term knowledge retention and sustained changes in clinical practice. This staff education project is important beyond the local site because it highlights the critical role of nursing education in improving procedural decision-making and patient outcomes in minimally invasive gynecologic procedures. The framework developed can be adapted by other healthcare organizations seeking to improve clinical selection, boost staff competency, and promote the safe and efficient use of procedural resources.

Conclusions

The overall impact of this DNP project on the project site was significant. The staff education outlined in this project shows a positive change, with clear benefits for

nurses' knowledge and confidence as well as for meeting evidence-based criteria for selecting patients for ambulatory hysteroscopy. The project's results clearly demonstrated a positive effect on the quality of patient care and the safety of operative procedures. Most importantly, they reduced procedural risks related to ambulatory hysteroscopy. Additionally, they enhanced interdisciplinary communication and promoted consistency in clinical decision-making. The education project also improved organizational efficiency by optimizing patient triage processes and decreasing the chances of inappropriate case selection or unplanned admissions.

Future recommendations for this organization include (a) expanding education to encompass all ambulatory obstetrics and gynecology staff, which will promote consistency, and (b) standardizing best practices across the department and medical office buildings. Broader participation will help ensure that every nurse involved in ambulatory care is well-prepared to apply the same evidence-based patient selection criteria and procedural safety protocols as every other nurse, minimizing variability in care delivery (Muralidhar et al., 2023). Additionally, fostering opportunities for interdisciplinary collaboration between nurses and physicians promotes a team-based approach to patient safety and quality improvement. The use of ongoing staff education, knowledge assessments, and refresher modules will sustain knowledge retention, ensure that each nurse remains current with evolving evidence and professional guidelines, and support a culture of lifelong learning (Mlambo et al., 2021). Such reinforcement mechanisms will also enable early identification of knowledge gaps, allowing the organization to tailor additional training to specific learning needs and maintain a high standard of clinical performance.

Future recommendations for this project focus on integrating learning platforms and simulation-based training to enhance accessibility, engagement, and interactivity for nurses. Specifically, refresher modules could provide flexible, self-paced options for busy clinical staff, helping maintain a healthy work-life balance and prevent burnout.

Simulation exercises would facilitate hands-on practice in realistic scenarios involving patient selection, pre-procedure assessment, and emergency response. These approaches can improve critical thinking and clinical judgment while promoting team communication within a controlled learning environment. Additionally, incorporating data into the training could offer real-time feedback, monitor participation, and evaluate comprehension more effectively. Assessing the long-term effects of the education on patient outcomes, procedural efficiency, and organizational metrics, such as complication rates and patient satisfaction (Brunt & Morris, 2023), would provide valuable data to validate the program's sustained impact. Ongoing evaluation would also help refine the curriculum, ensuring it remains aligned with current standards, regulatory requirements, practices, protocols, guidelines, and the organization's broader goals for patient safety and quality improvement.

The potential implications of this project on nursing practice include improving nurses' decision-making skills in the clinical setting and advancing their advocacy abilities. Additionally, nurses will be better equipped to promote patient safety and contribute more significantly to enhancing evidence-based quality. The project can also boost nurses' confidence and competence in selecting patients for outpatient procedures. This, in turn, promotes greater nursing autonomy and accountability in specialized outpatient care. The actual or potential impact of this project to foster positive social

change lies in its support for equitable, safe, and patient-centered women's health services.

The staff education project emphasizes diversity, equity, and inclusion in care delivery. Its results reveal that such initiatives can build a culture that respects each patient's background and needs. Simultaneously, initiatives like this help nurses provide each patient with high-quality care, leading to better outcomes and maintaining patients' trust in the healthcare system.

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Appendix: Pre- and Post- Knowledge Assessment

Assigned number only (Month and Day of your Mother's Birthday) No Names Please

- 1.) What are the most common reasons for a patient to undergo an office hysteroscopy?
 - a. Active pelvic inflammatory disease
 - b. Diagnosis of uterine cancer
 - c. Abnormal uterine bleeding**
 - d. Patient is pregnant

- 2.) A patient undergoing an ambulatory hysteroscopy, what would be a contraindication, requiring a surgical hysteroscopy instead?
 - a. BMI greater than 25
 - b. Vaginal bleeding
 - c. Patient experiencing anxiety
 - d. Patient with sleep apnea**

- 3.) During an ambulatory hysteroscopy, for fluid management, the nurse is responsible for: Select all that apply
 - a. Monitoring the fluid volume deficit**
 - b. Tracking the amount of fluid instilled**
 - c. Tracking the amount of fluid returned**
 - d. Ensuring the patient receives at least 1 liter of oral fluids

- 4.) What is the primary risk associated with increased fluid absorption during an ambulatory hysteroscopy?

- A. Infection
- B. Uterine perforation
- C. Fluid overload and electrolyte imbalance**
- D. Excessive bleeding

5.) What safety checks should the nurse perform in the procedure room before the patient arrives?

- A. Instrument count
- B. Ensuring the hysteroscopy tower is working**
- C. Sterile field
- D. The procedure chair is working

6.) The patient is experiencing increased anxiety just before a scheduled ambulatory hysteroscopy. What is the most appropriate nursing intervention?

- A. Cancel the ambulatory hysteroscopy
- B. Reschedule the ambulatory hysteroscopy when the patient is calmer
- C. Ask the provider to write an order for an anti-anxiety medication
- D. Provide detailed explanations about the procedure and address her**

specific fears.

7.) What is the primary purpose of the distention medium (e.g., saline) used during a hysteroscopy?

- A. To numb the uterus
- B. To reduce bleeding
- C. To visualize the uterine cavity**
- D. To prevent infection

8.) When providing discharge instructions after an ambulatory hysteroscopy, which of the following signs or symptoms should the nurse advise the patient to report immediately?

- A. Mild cramping and light spotting
- B. Heavy vaginal bleeding, fever, or chills**
- C. Minimal clear or pinkish discharge
- D. Feeling tired or fatigued