Postprint: Application of an SBAR-Based Modified Nursing Handover Form in Perioperative Management of Patients with Early-Stage Gastric Cancer

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Abstract

Purpose To investigate the application effect of an improved nursing handover form based on the SBAR model in the perioperative management of early gastric cancer patients. Methods A total of 100 early gastric cancer patients who underwent endoscopic submucosal dissection (ESD) and were admitted to the Department of Gastroenterology from January to May 2021 were selected as the control group, and 100 early gastric cancer patients who underwent ESD and were admitted from August to December 2021 were selected as the observation group. The control group used the traditional handover mode, while the observation group used an improved nursing handover form based on the SBAR model for nursing handover management. Handover quality, patient satisfaction with nurses, and nurses' critical thinking ability were evaluated between the two groups. Results After implementing the improved nursing handover form, the comprehensiveness of nurses' handover quality was significantly improved, and the nurses' critical thinking score $(259.95\$\pm38.60) was significantly higher than that before implementation (228.68\pm36.44) (P < 0.05). The patient satisfaction score with nurses in the observation group (21.47\pm2.96) was higher than that in the co$ with a statistically significant difference (P<0.05). Conclusion Adopting an improved nursing handover form based on the SBAR model can improve handover quality, increase patient satisfaction with nurses, and enhance nurses' critical thinking ability.

Full Text

Application of Modified Nursing Shift Schedule Based on SBAR Communication Model in Perioperative Management of Patients with Early Gastric Cancer

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Abstract

Objective: To evaluate the effect of a modified nursing shift schedule based on the SBAR communication model in the perioperative management of patients with early gastric cancer.

Methods: Patients who received endoscopic submucosal dissection (ESD) for early gastric cancer between January and May were included as the control group, while patients who received ESD for early gastric cancer between August and December were included as the observation group. The control group used traditional shift handover methods, while the observation group implemented a modified nursing shift schedule based on the SBAR communication model. The quality of nursing shift handovers, patient satisfaction with nurses, and nurses' critical thinking ability were measured and compared between the two groups.

Results: After implementation of the modified nursing shift schedule, the comprehensiveness of handover quality significantly improved. Nurses' scores on the California Critical Thinking Disposition Inventory (CCTDI) were higher than before implementation ($P < 0.05$) and higher than those in the control group ($P < 0.05$). Patient satisfaction scores in the observation group were also significantly higher than in the control group ($P < 0.05$).

Conclusion: The modified nursing shift schedule based on the SBAR communication model is an effective tool for improving handover quality, patient satisfaction, and nurses' critical thinking ability in the care of early gastric cancer patients undergoing ESD.

Keywords: early gastric cancer; perioperative period; nursing shift schedule; SBAR communication model; nursing management

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Introduction

Nursing shift handover is the information exchange among nursing staff regarding patients and constitutes a critical component for ensuring continuous, efficient, and safe nursing care [1]. Ineffective communication during handover may lead to serious nursing errors and even patient death [2]. Effective communication has become one of the patient safety goals emphasized by the Chinese

Hospital Association [3]. The SBAR communication model is a standardized communication protocol designed to improve accuracy and effectiveness during information transfer [4]. In this model, S stands for Situation ("current status"), B for Background ("underlying causes"), A for Assessment ("identified problems"), and R for Recommendation ("what should be done"). Currently, this model is primarily applied in China for preoperative visits, condition reporting, nursing handovers, clinical teaching, nursing management, and critical patient transport, demonstrating favorable outcomes [5].

Early gastric cancer refers to malignant tumor formation resulting from cancer cell infiltration in the gastric mucosa or submucosa [6]. Endoscopic submucosal dissection (ESD) can maximally preserve the integrity of the digestive tract, features short operation time, minimal intraoperative bleeding, and represents an ideal minimally invasive procedure [7]. However, post-ESD complications such as bleeding, perforation, and stenosis may occur, which can be life-threatening in severe cases [8]. This study analyzes the application effect of the SBAR communication model in perioperative nursing handovers for early gastric cancer patients undergoing ESD.

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1. Materials and Methods

Patient Selection Patients admitted to the gastroenterology department who underwent ESD for early gastric cancer were selected as the control group, while another patients who received ESD for early gastric cancer were included as the observation group.

Inclusion criteria: (1) Diagnosis of early gastric cancer confirmed by gastroscopy, endoscopic ultrasound, and pathology; (2) No organ or lymph node metastasis; (3) Good cardiopulmonary function; (4) Lesion diameter $<$ cm. **Exclusion criteria:** (1) Combined with other tumors; (2) Psychiatric abnormalities. All patients provided informed consent. The basic characteristics of both groups are shown in . There were no statistically significant differences in general patient data between the two groups ($P > 0.05$).

Nurse Selection The gastroenterology department had female nurses, all of whom had not received SBAR training before and voluntarily participated. Among them, were senior nurses responsible for training and assessment of their subordinate nurses, ensuring strict quality control. The department conducted systematic SBAR training in month. Among the nurses, had bachelor's degrees. There were no statistically significant differences in general nurse data between the control and observation groups ($P > 0.05$).

Personnel Training SBAR experts were invited to conduct systematic SBAR training for team members via video conference, hours per session for a total of sessions. Training content included the background, concept,

and classic clinical application cases of the SBAR communication model, combined with analysis and discussion of actual clinical cases to enhance nurses' understanding. Additionally, classic cases of adverse events caused by poor communication were discussed to help nurses recognize the importance of the SBAR communication model.

Form Design Team members reviewed relevant literature [9-11] and consulted gastroenterology endoscopy nursing experts to identify key handover points for early gastric cancer patients undergoing ESD before and after surgery. Based on the SBAR communication model, they designed and developed a pre-ESD nursing handover form (see) and a post-ESD nursing handover form (see).

Implementation Control group: Nurses in the control group used traditional handover methods. On-duty nurses reviewed medical histories, examination reports, physician orders, and nursing records before participating in morning group handovers, listened to night shift reports, and conducted bedside rounds with the head nurse before starting their work.

Observation group: The observation group used the modified nursing shift schedule based on the SBAR communication model. A team of senior nurses and the head nurse formed an SBAR team. The head nurse developed training and assessment plans with strict quality control. The head nurse demonstrated handover using the forms, conducting verbal handovers item by item according to the forms. Items not applicable to a patient could be skipped. Sensitive information such as protective medical measures and special examination results were handed over privately in the treatment room rather than at the bedside. After team members passed assessment, they trained their subordinate nurses using scenario simulation combined with role-playing methods (hours per session) and invited physicians to observe and provide feedback, enabling nurses to experience and reflect from both professional and patient perspectives to improve their condition analysis and communication skills. Starting from month, all nurses used these forms for perioperative handovers in early gastric cancer ESD patients.

Measurement of Nurses' Critical Thinking Ability The California Critical Thinking Disposition Inventory (CCTDI) was used, with a reliability coefficient of [12]. The scale includes seven dimensions: truth-seeking, open-mindedness, analytical ability, systematicity, self-confidence, inquisitiveness, and cognitive maturity, with a total of items using a 6-point Likert scale. Total scores range from to , with higher scores indicating stronger critical thinking. Nurses' critical thinking ability was compared before and after implementation of the modified handover forms. Questionnaires were distributed before and after implementation, with valid response rates.

Statistical Analysis SPSS software was used. Measurement data were expressed as mean ± standard deviation (X ± S) and compared between groups using t-tests. Count data were expressed as rates (%) and compared using ^{2} tests. The significance level was set at $\alpha = 0.05$.

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2. Results

Handover Quality For each early gastric cancer perioperative patient, the head nurse checked handover content item by item according to the nursing handover form. Complete handover content was recorded as "comprehensive," while omitted items were recorded as "not comprehensive" (cases per group). The comprehensive handover rate was compared between the two groups. Nurses in the observation group using the SBAR-based modified handover form showed significantly improved handover comprehensiveness (see).

Patient Satisfaction with Nursing Care A self-designed hospital scale was used to evaluate patient satisfaction from aspects including nursing attitude and technical skills, timely ward rounds, health guidance, proactive problem identification, and problem-solving assistance. A Likert 5-point scoring method was used, with higher total scores indicating greater satisfaction. A total of questionnaires were distributed in this study, with valid responses and a valid response rate of %. Patient satisfaction scores in the observation group ( ) were significantly higher than in the control group ( ), with statistical significance ($P < 0.05$).

Comparison of Nurses' Critical Thinking Ability After implementation of the modified handover form, nurses' CCTDI scores ( ) were significantly higher than before implementation ( ), with statistical significance ($P < 0.05$).

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3. Discussion

This study demonstrates that using a modified nursing shift schedule based on the SBAR communication model resulted in more comprehensive handover content and higher handover quality compared to traditional methods, consistent with findings from Jia et al. [13]. Traditional nursing handover models lack standardization, with unclear priorities, disorganized sequences, inconsistent information, and frequent interruptions during handover, leading to omission of important information and transmission of outdated or irrelevant information that affects handover quality. Research [14] indicates that when nurses use the SBAR communication model, they can communicate equally regardless of seniority level, reducing information omission caused by nervousness or lack of confidence. Perioperative nursing handover for early gastric cancer patients involves extensive and complex content, and omission of any critical information

may harm patients. The standardized SBAR communication model encourages both parties to actively collect and organize required information [15], with item-by-item handover according to the form ensuring clear thinking, focused attention, highlighted priorities, and avoidance of information omission or repetition, thereby improving nursing quality and ensuring patient safety.

Traditional nursing handovers typically focus on patient conditions and treatments, lacking patient communication and holistic attention. Using the SBAR communication model, nurses actively establish good nurse-patient relationships, increase patient communication, repeatedly provide health guidance, comprehensively understand patient needs and concerns, and promptly address issues with physician assistance when necessary, making patients feel cared for and valued. The SBAR communication model fully embodies patient-centered care philosophy, integrating caring and professionalism into communication, being patient needs-oriented, and demonstrating humanized and personalized characteristics.

Due to the requirements of SBAR-based handovers, nurses in the observation group needed to frequently review literature, enrich their theoretical knowledge, optimize their knowledge systems, and improve communication skills. Compared to traditional simple narrative and descriptive condition reporting, using the SBAR-based modified handover form is more scientific, prospective, and comprehensive, enabling nurses to conduct clear and accurate handovers that increase patient trust and satisfaction.

Related studies [16-18] report low complication rates after ESD. In traditional nursing handovers, nurses only report the patient's current condition, focusing primarily on therapeutic content without in-depth consideration of potential nursing risks or self-reflection, lacking critical thinking. In the observation group, based on the SBAR communication model, nurses actively learned perioperative theoretical knowledge for early gastric cancer, searched literature purposefully, sought best nursing evidence, and proactively raised questions when encountering problems, thereby developing problem-analysis abilities. Under the SBAR communication model, nurses could identify their own deficiencies during others' handovers, reflect, and improve their professional skills, promoting self-awareness of critical thinking and ultimately enhancing critical thinking ability [19].

In summary, the SBAR communication model provides a scientific and effective method for clinical nursing handovers, ensuring comprehensive handover content and high-quality condition reporting while emphasizing humanistic nursing philosophy. It stimulates nurses' subjective initiative, thereby improving perioperative handover quality and patient satisfaction for early gastric cancer patients while significantly enhancing nurses' critical thinking ability. Future applications of the SBAR communication model should consider further localization by adapting to regional and departmental characteristics and integrating with existing electronic nursing handover platforms to construct optimal handover models.

Conflict of Interest Statement: The authors declare no conflicts of interest.

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Note: Figure translations are in progress. See original paper for figures.