

FAST-N: A WHOLE NEW MODEL FOR TRAINING INTENSIVE CARE SPECIALIST NURSES

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Abstract: This paper explores an emerging training model of intensive care specialist nurses -- FAST-N, aiming to respond to acute and critical situations in modern medical settings by improving nurses' ability to respond quickly and handle complex situations. This paper expounds the theoretical basis and design points of FAST-N model, analyzes the challenges and deficiencies of the existing training model of intensive care nurses, and on this basis, puts forward suggestions to improve the quality and efficiency of training, including strengthening standardized training, increasing practical operation and establishing continuous evaluation mechanism. It aims to promote the innovative development of intensive care nurse training mode, improve the quality of nursing, improve patient safety and promote the efficiency of medical service.

Keywords: FAST-N; Intensive care; Specialist nurse; Training mode

1 INTRODUCTION

In today's medical setting, intensive care specialist nurses play an increasingly critical role, with important responsibilities for monitoring, evaluating, and treating critical patients. With the continuous advancement of medical technology and increasing patient complexity, the need for critical care teams is also increasing. However, traditional nursing education models are not necessarily able to adequately address these needs, especially in the face of challenges requiring a rapid response and a high level of skills [1].

This paper introduces a new model of training intensive care specialist nurses, namely FAST-N (Fast Assessment and Specialized Training for Nurses), rapid nurse assessment and specialist training for nurses. The FAST-N model does not only emphasize the teaching of basic nursing knowledge and skills, but also focuses on cultivating the ability of nurses to respond to and handle problems quickly and effectively in emergency situations. This paper will discuss the design concept, implementation strategies of the FAST-N model and its application in real medical practice.

By introducing the FAST-N model, we can expect to improve the overall quality of intensive care specialist nurses and their ability to cope with complex situations, thus improving the quality and efficiency of intensive care. The successful implementation of this model will not only bring innovation to the field of nursing education, but will also have a profound impact on future nursing practices and patient health outcomes.

2 ANALYSIS OF THE IMPORTANCE AND EXISTING TRAINING MODE OF INTENSIVE CARE SPECIALIST NURSES

2.1 Roles and Functions of Intensive Care Specialist Nurses

2.1.1 Rapid evaluation and monitoring

Intensive care specialist nurses are able to assess the patient's condition quickly and accurately. With systematic assessment methods and expertise, they are able to quickly identify the clinical condition of patients and perform real-time vital signs monitoring. This ability can not only help to detect changes in the disease in time, but also effectively reduce the time from diagnosis to treatment and improve the overall treatment efficiency [2].

2.1.2 Emergency treatment and intervention

In the face of an acute deterioration or critical condition, intensive care specialist nurses are able to quickly take effective nursing measures. They are able to apply resuscitation techniques, emergency medication, and other emergency interventions. Through timely and decisive action, intensive care specialist nurses are able to effectively control the patient's condition and reduce the occurrence of complications and patient mortality [3].

2.1.3 Team work and leadership

Intensive care specialist nurses play an important collaborative and leadership role in the medical team. They are able to effectively communicate and collaborate with other members of the medical team to ensure that medical measures are

implemented timely and effective [4]. By leading the team, intensive care specialist nurses are able to ensure comprehensive care coverage and efficient treatment process, thus maximizing the patient's care experience and treatment effect.

The multiple functions of the intensive care specialist nurse make it an integral part of the medical team. Their professional skills and keen responsiveness can not only improve the overall efficiency of the medical team, but also lead to significant improvement in patient safety and health.

2.2 Challenges and Deficiencies of the Existing Training Mode for Intensive Care Specialist Nurses

2.2.1 Lack of standardization of educational content and methods

The current training model of intensive care specialist nurses has the problem of insufficient standardization of educational content and methods. The curriculum setting and teaching methods of different medical institutions or educational institutions vary greatly, and they lack unified educational standards and training guidance [5]. This situation leads to a significant inconsistency in the skill level and breadth of knowledge of nurses after completing the training, thus affecting their performance in practical work and their ability to cope with complex conditions. The lack of standardized training models also limits the overall quality of care improvement and the collaborative efficiency of healthcare teams, which needs to be addressed through the development of uniform educational standards and training guidelines.

2.2.2 Insufficient combination of practice and theory

In some current training mode of intensive care nurses, there is insufficient combination of practice and theory. Too much focus on theoretical teaching and simulation practice, failed to effectively improve the nurses' operational skills in the practical work and the ability to deal with complex situations. Nurses may lack sufficient practical operational experience and coping ability when facing real patient conditions, which limits their actual performance and quality of care in the clinical setting [6]. Therefore, it is necessary to pay more attention to the training of practical operation and the simulation of real scenarios in the training process, so as to ensure that nurses can skillfully apply the knowledge and skills learned at work, and effectively improve the overall nursing level and patient safety.

2.2.3 Lack of preparation for complex situations

In an intensive care environment, patients' conditions often change rapidly and frequently, requiring nurses to have the ability to respond quickly and accurately. However, the existing training models may not be able to adequately cultivate nurses' response speed and decision-making ability in emergency situations. Lack of training and practice opportunities in real clinical scenarios, nurses may feel maladaptive or lack confidence in the real patient's condition [7]. Therefore, in order to improve the nurses in the intensive care environment, need to increase the cultivation of practical experience content, strengthen the simulation practice and emergency response training, to ensure that nurses can quickly make correct nursing decisions at a critical moment, and effectively manage the patient's condition changes, so as to improve the quality of nursing care and patient safety level.

2.2.4 Actual workload and pressure during the training period

During the training period of intensive care specialist nurses, they often bear great practical workload and pressure. The particularity of intensive care environment requires nurses to have high professional skills and adaptability, so training usually requires intense and intensive learning time and practical operations. However, due to the complexity and urgency of the work environment, some training may fail to adequately consider the nurse balance between study and work. First, nurses usually need to face complex medical situations and first aid scenarios, which are both physical and psychological challenges. Long learning and practical operation may lead to increased physical exertion and emotional stress of nurses, affecting their learning and work efficiency. Secondly, as training usually focuses on theoretical teaching and simulation practice, lacking sufficient practical work experience and real clinical practice, nurses may feel less confident or inexperienced in facing actual patients. This situation may affect the nurses' decision-making ability at work and their ability to deal with complex situations, thus affecting the quality of care and patient safety. Also, due to the high responsibility and urgency of intensive care work, failure to effectively manage work stress during training may lead to fatigue and anxiety among nurses. Long-term high-pressure state may affect the career enthusiasm and work enthusiasm of nurses, and then affect their learning and growth during the training period [8].

2.2.5 Insufficient support for professional development and continuing education

With the continuous development of medical technology and the change of patient care needs, the existing training mode of intensive care specialist nurses may not be able to effectively support the professional development and continuous education needs of nurses. First, the existing training models often lack a clear career development path and professional certification system. After completing the basic training, intensive care nurses are faced with the problem of how to further improve their professional level and skills. The lack of clear career promotion channels and professional certification system may make nurses lack a sense of direction and motivation in their career development, which will affect their long-term career planning and development. Second, the opportunities for continuing education under the existing model are limited. As medical technologies and nursing practices are constantly updated, nurses need to regularly update their knowledge and skills to meet new medical challenges. However, the lack of targeted continuous education programs and resource support may prevent nurses to obtain the latest medical information and best practices, thus affecting their competitiveness and coping ability in practice. In addition, the rapid development of

technology also means that intensive care specialist nurses need to constantly adapt to the application and operation of new technologies in order to improve the efficiency and quality of care. The lack of targeted technical training and practice opportunities may lead to nurses' lag in the mastery and application of new technologies, limiting their ability development and work efficiency in practice [9].

3 FAST-N PATTERN

3.1 The Concept and Category of FAST-N

FAST-N is an innovative training model for intensive care specialist nurses, designed to strengthen nurses' coping ability and response speed in emergency and critical situations. Compared with the traditional model of nursing education, the FAST-N model highlights the following characteristics and goals:

3.1.1 Professional training focus

The FAST-N model focuses on the rapid acquisition and application of key skills and knowledge through targeted education and training. These skills include, but are not limited to, first aid measures, resuscitation techniques, crisis management and monitoring skills, designed to enable nurses to quickly and accurately respond to complex clinical situations.

3.1.2 The importance of simulation practice

To enhance the resilience of nurses in practical work, the FAST-N model widely adopts simulation practices. This practice includes not only standardized simulation scenarios, but also covers response training in diverse and emergency situations, such as simulated first aid, teamwork, and complex case handling.

3.1.3 Time efficiency and quality assurance

The training of rapid nurses focuses on improving the overall response speed and treatment effect of the nursing team in a short time. With effective educational strategies and reinforcement of practical skills, the FAST-N model aims to shorten the time from diagnosis to treatment and complication rates.

3.1.4 Comprehensive career development support

In addition to technical training, the FAST-N model focuses on career development and leadership development of nurses. This comprehensive support helps nurses to play a greater role in the intensive care setting, improving the overall team efficiency and quality of care.

3.2 Design and Implementation

3.2.1 The theoretical basis for designing a new FAST-N culture model

The theoretical basis of the FAST-N (rapid nurse) training model is based on the following key points. First, the emphasis on the ability to respond quickly and handle complex clinical situations requires combining the latest medical technology and nursing practice to ensure that nurses can quickly adapt and respond to a variety of acute situations. Secondly, the rationale also includes evidence-based practice and continuous education to ensure that nurses can continuously improve and update their professional skills in practice. Finally, the design of the training mode should take into account the actual workload and pressure of nurses, and help nurses to balance learning and practice through effective educational content and methods, so as to improve the overall quality of nursing and patient safety level.

3.2.2 Methods and steps for making the culture plan

(1) Clear training objectives and expected results

First, determine the core skills and knowledge that nurses should have after completing the training, such as rapid response to first aid, accurate assessment of patients' condition, and effective application of advanced nursing technology. Identify the expected outcomes of the training, such as improving the quality of care, reducing medical errors, improving patient satisfaction, etc.

(2) Design detailed course content and teaching methods

Combined with the training objectives, the comprehensive course content covers theoretical learning, simulation practice and real clinical case training. Determine the course timing, content sequence, and learning resources to ensure that nurses can systematically learn and master the required nursing skills.

(3) Establish an effective evaluation and feedback mechanism

Design diversified assessment tools, including knowledge testing, skill assessment, and clinical performance evaluation, to comprehensively assess nurses' learning progress and skill mastery. Set up a regular evaluation cycle, and establish an effective feedback mechanism, timely feedback of the evaluation results, and provide personalized learning support and guidance.

(4) Provide diversified opportunities for continuing education and professional development:

Design and promote continuing education programs related to the training content, such as advanced skills training and academic conference participation, to support the continuous learning and growth of nurses in their career development. Provide support for professional certification and academic qualification assessment to help nurses establish career development paths and achieve personal professional goals.

3.3 Education and Training

3.3.1 Basic knowledge and skills training content of rapid nurses

In the FAST-N training, the basic knowledge and skills training content are crucial, mainly including the following aspects:

First aid skills and critical situation management: including theoretical and practical operation training in cardiopulmonary resuscitation (CPR), automatic external defibrillator (AED), respiratory tract management, and acute respiratory distress syndrome (ARDS).

Monitoring and evaluation: Learn to use various monitoring devices (such as electrocardiogram monitors, blood pressure monitors, etc.) for real-time monitoring and evaluation of the patient's vital signs. It can quickly judge and respond to the patient's physiological changes.

Drug management: master the commonly used intravenous drug infusion skills, understand the effects, side effects and application principles of various drugs, and ensure that drug treatment can be performed correctly and quickly in an emergency.

Disease assessment and recording: Learn how to effectively conduct disease assessment, including medical history collection, symptom observation, physical examination, etc., and how to accurately record and report changes in the patient's condition.

Teamwork and communication: Develop the ability to communicate and cooperate effectively in the medical team, including good cooperation with doctors, other nurses and medical technicians to ensure the quality of comprehensive care for patients.

3.3.2 Training of practical operation skills and the use of simulated scenarios

Simulation practice: Use highly realistic simulation mannequin and equipment to simulate a variety of acute and critical situations, such as cardiac arrest, respiratory failure, etc., so that nurses can conduct practical operation practice and emergency handling training in a safe environment.

Case analysis and role playing: Through case analysis and role playing, nurses can make decisions and operations in simulated real clinical scenarios, so as to strengthen their calmness and professionalism in dealing with complex situations.

Real-time feedback and guidance: to ensure that each simulation training can provide timely feedback and guidance, to help nurses to identify and correct mistakes, and gradually improve their operational skills and coping skills.

3.4 Evaluation

3.4.1 Evaluation indicators and methods of FAST-N culture mode

Skill mastery assessment: Through regular skill assessment and practical operation ability assessment, check the mastery of the skills required by nurses in the intensive care environment, such as first-aid skills, drug management, monitoring and evaluation, etc.

Knowledge understanding and application ability: to evaluate the understanding degree and application ability of nurses in intensive care related knowledge in practical work through theoretical knowledge testing and case analysis.

Ability to cope with complex situations: To evaluate nurses' coping ability and decision-making level in the face of complex situations through simulated scenarios and real clinical cases.

Teamwork and communication skills: To assess nurses' role-play and collaboration skills in the medical team, including effective communication and collaboration with other healthcare professionals.

Patient safety and quality of care: To assess the impact of the FAST-N culture model on patient safety and quality of care through patient satisfaction survey, medical error rate statistics and other methods.

3.4.2 Quantitative and qualitative assessment of the training effect

(1) Quantitative assessment:

Quantitative data such as test scores, skill scores, and medical error rate were used to quantitatively analyze and compare nurses' skill level and job performance after training.

Statistical analysis was performed to compare the data changes before and after training to evaluate the actual effect of training on nurses' skill improvement.

(2) Qualitative evaluation:

Face-to-face individual interviews or focus group discussions were conducted to understand the nurses' subjective feelings and feedback on the training content and methods.

Qualitative evaluation of case analysis and scenario simulation was conducted to evaluate the ability and performance of nurses to deal with complex situations in practical work.

(3) Comprehensive evaluation:

Quantitative and qualitative data analysis will be combined to comprehensively assess the overall impact of the FAST-N training model on nurse competence, work quality, and team effectiveness.

According to the evaluation results, the training plans and methods should be adjusted and optimized in time to continuously improve the effect and adaptability of the training mode.

4 DISCUSSION AND OUTLOOK

4.1 The Prospect and Application Potential of the FAST-N Model in the Future Development

As an emerging training model of intensive care specialist nurses, the FAST-N model has a broad development prospect and application potential. First, to improve the quality of care and patient safety. The FAST-N model emphasizes the ability to respond quickly and handle complex situations, which can effectively improve the quality of care, reduce medical errors, and improve patient survival and recovery rates. Second, the ability to cope with both acute and critical situations. With the development of medical technology and the increasing need for patient care, nurses trained by the FAST-N model are able to respond more flexible and rapid to a variety of acute and critical situations, meeting the needs of modern intensive care. Third, cost-effectiveness and efficiency improvement. Cultivating FAST-N nurses with high effect response ability can reduce the waste and reuse of medical resources, and improve the efficiency and cost-effectiveness of medical services. Fourth, it is applied to the multidisciplinary team cooperation. FAST-N nurses have excellent teamwork and leadership skills and can play an important role in the multidisciplinary team and promote the overall improvement of health services.

4.2 Suggestions on Improving the Training Quality and Efficiency of Intensive Care Specialist Nurses

4.2.1 Strengthen the standardized training content and methods

Develop unified training standards and curriculum content to ensure that the quality and level of training in different regions and institutions are basically consistent, and improve the comparability of training effectiveness and the accuracy of evaluation [10].

4.2.2 Add practical operations and clinical case simulation

Strengthen the training of practical operation skills, increase the simulation of real clinical scenes, so that nurses can deal with complex situations more truly in the simulation environment, and enhance their coping ability and confidence.

4.2.3 Establish continuous evaluation and feedback mechanisms

Design scientific and effective assessment tools and assessment cycles, regularly assess nurses' learning progress and skill level, find problems in time and provide personalized learning support and guidance.

4.2.4 Promoting continuing education and professional development opportunities

Providing diversified continuing education and professional development opportunities, such as advanced skills training, academic conference participation, to help nurses constantly update their knowledge and skills and adapt to the rapid development of medical technology and treatment methods.

4.2.5 Interdisciplinary cooperation and knowledge sharing

Encourage interdisciplinary cooperation and knowledge sharing, cultivate nurses' teamwork spirit and cross-border problem-solving skills, and improve the overall quality and efficiency of medical services.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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