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Enhancing competency of clinical research nurses: A comprehensive training and evaluation framework

Liu YX *et al*. Enhancing competency of CRNs

Yang-Xi Liu, Yi Xu

Abstract

The Jie Sun's training program for clinical research nurses (CRNs) in the World Journal of Clinical Cases is a comprehensive and scientific approach. It includes structured frameworks for CRN training, aiming to improve CRN competency. This program emphasizes practical abilities, updates training content, and improves evaluation methods. The cultivation of CRN talents focuses on enhancing the training system, establishing a multifaceted evaluation framework, and continuously refining the training programs. Regular feedback and evaluation are essential to improve CRNs' competency in practical settings.

Key Words: Clinical research nurse; Framework; Nurse; Operations; Practice; Structure

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Core Tip: The existing training model for research nurses requires enhancement as it disproportionately focuses on theoretical knowledge while neglecting practical skills, resulting in a discernible disconnect between theory and its application. Furthermore,

the evaluation methods in use are not up to date and fall short in accurately gauging practical abilities. To bridge this gap, it is recommended to augment the curriculum with a stronger emphasis on practical operations and case studies, adopt a dynamic system for updates, and refine evaluation techniques. These measures will equip research nurses more effectively for clinical practice.

TO THE EDITOR

We are delighted to read the high-quality article by Jie Sun, published in the World Journal of Clinical Cases[1]. The main focus of this article is on the development of a training program for clinical research nurses (CRNs) based on job competency, with the aim of accelerating the construction of a CRN talent pool and providing scientific guidance for CRN training. Through literature research and qualitative interview results, combined with Delphi method consultation with 16 experts in two rounds, a training program was identified. This training program includes 4 first-level indicators, 15 s-level indicators, and 74 third-level indicators, providing a scientific basis for participation in CRN training.

THE CURRENT SITUATION AND CHALLENGES OF CRN TALENT CULTIVATION

The latest research by Jie Sun has sparked our team's observations and reflections on the current training model for research nurses. The importance of CRNs in the healthcare system is increasingly apparent, as their professionalism and practical abilities have a direct impact on the quality of healthcare and patient satisfaction. However, I have observed that there are several issues with the current training model for research nurses that can affect the quality of their training.

First and foremost, it is essential to acknowledge that the current training model excessively emphasizes the transmission of theoretical knowledge[2], while overlooking the cultivation of practical abilities. Although theoretical knowledge is fundamental, the work of research nurses emphasizes practical operations and problem-solving abilities.

Therefore, we must refine the training content to increase the proportion of practical operations and case studies to render the training more pertinent to actual work situations.

Moreover, the speed of updating training content is sluggish and fails to match the rapid advancement of medical technology. The emergence of new technologies and techniques necessitates the constant updating of our knowledge base, yet the current training materials have not been able to keep up with these changes. Therefore, it is essential to establish a dynamically updated training system and regularly update and refine the training content.

Lastly, it is worth noting that there are also challenges with the evaluation methods for training. The current evaluation methods are too simplistic, primarily based on theoretical examinations, making it difficult to comprehensively assess the actual abilities of research nurses. Therefore, it is necessary to improve the evaluation methods during the assessment process of nurses by incorporating more practical operations and case-based evaluation methods to more accurately evaluate their skill levels.

In conclusion, there is an urgent need to reform the current training model for research nurses. By optimizing the training content, establishing a dynamically updated training system, and improving assessment methods, we can enhance the quality of research nurse training and foster more outstanding talents for the healthcare industry[3] (See Table 1).

KEY ASPECTS OF CRN TALENT CULTIVATION

The cultivation of CRN talents can be focused on several key aspects (see Figure 1). Initially, it is essential to enhance the training system for CRN. As Jie Sun's research[1] indicates, while CRN plays a pivotal role in clinical trials, there are still gaps in its training system. Therefore, it is imperative to further enhance CRN's training system, particularly in professional practice, management skills, communication and coordination abilities[4], and critical thinking skills. Secondly, a multi-faceted assessment and evaluation framework is necessary[5]. Respondents concurred that a comprehensive

evaluation of CRN's competency framework is essential. This necessitates an assessment and evaluation that is multifaceted, beyond traditional evaluation criteria. Consideration should be given to introducing more simulations of real-work scenarios and evaluations based on actual performance. Thirdly, the training programs require continuous refinement[6]. As the training model for clinical research nursing is still in its infancy, it is imperative to constantly refine and optimize the training programs. This can be achieved by soliciting feedback from CRN in practical settings or periodically evaluating the effectiveness of the training. Fourthly, it is essential to collaborate with other fields. Clinical trials involve multiple disciplines and fields; hence CRN training must consider interdisciplinary cooperation with clinicians[7], pharmacists, biostatisticians, and more. This interdisciplinary cooperation can enhance CRN's coordination and communication abilities throughout the clinical trial process. Fifthly, we must leverage modern technology. With technological advancements, distance education and online learning have become feasible. Therefore, more online courses, virtual reality simulation training, and other modern training methods can be considered to provide more flexible and diverse training options. Sixthly, attention should be paid to CRN's career development. Beyond providing quality training, emphasis should be placed on CRN's career advancement[8-11]. Opportunities for promotions should be available or a comprehensive career development plan should be established to assist CRN in achieving their professional aspirations. Lastly, a feedback mechanism should be established[12,13]. To enhance the efficacy of training, it is imperative to establish a feedback mechanism for CRN. This can be achieved through regular surveys to assess satisfaction, focus group discussions, and other means. By promptly understanding CRN's needs and expectations, we can refine the training program accordingly.

In summary, the cultivation and advancement of CRN necessitate comprehensive consideration and improvement across multiple dimensions. This encompasses not only the refinement of training content and methods but also effective collaboration with other fields, career development opportunities, and more.

CONCLUSION

The current training model for research nurses is in need of improvement. It overemphasizes theoretical knowledge and lacks practical skills, leading to a gap between theory and practice. Evaluation methods are also outdated, failing to accurately assess practical skills. Recommendations include enhancing the practical operation and case study content, implementing a dynamic update system, and improving evaluation methods. This will better prepare research nurses for their clinical work.

REFERENCES

1 **Sun J**, Shan WC, Liu JM, Zhang QQ, Ye Y, Huang ST, Zhong K. Construction of clinical research nurse training program based on position competence. *World J Clin Cases* 2023; **11**: 7363-7371 [PMID: 37969439 DOI: 10.12998/wjcc.v11.i30.7363]

2 **Iconomescu TM**, Olaru BS, Talaghir LG, Mereuta C, Balint G, Buhociu MF, Dorgan V. Interventions Which Aim at Implementing the Knowledge-Based Approach in the PE Lesson: A Systematic Review. *Sustainability* 2021; **13**: 20 [DOI: 10.3390/su132111781]

3 **O'Connor S**, Hubner U, Shaw T, Blake R, Ball M. Time for TIGER to ROAR! Technology Informatics Guiding Education Reform. *Nurse Educ Today* 2017; **58**: 78-81 [PMID: 28918322 DOI: 10.1016/j.nedt.2017.07.014]

4 **Salik I**, Paige JT. Debriefing the Interprofessional Team in Medical Simulation. StatPearls. Treasure Island (FL) ineligible companies. Disclosure: John Paige declares no relevant financial relationships with ineligible companies.: StatPearls Publishing Copyright © 2023, StatPearls Publishing LLC., 2023

5 **Curtis JR**, Treece PD, Nielsen EL, Downey L, Shannon SE, Braungardt T, Owens D, Steinberg KP, Engelberg RA. Integrating palliative and critical care: evaluation of a

quality-improvement intervention. *Am J Respir Crit Care Med* 2008; **178**: 269-275 [PMID: 18480429 DOI: 10.1164/rccm.200802-272OC]

6 **Kennedy BW**, Froeschl K. Education and Training. In: Weichbrod RH, Thompson GA, Norton JN, editors. Management of Animal Care and Use Programs in Research, Education, and Testing. Boca Raton (FL): CRC Press/Taylor & Francis © 2018 by Taylor & Francis Group, LLC., 2018: 221-266

7 **Nelms CL**, Johnson E, Peseski S. Determination of Renal Nutrition Training and Education Need for Pediatric-Focused and Adult-Focused Clinicians: The North American Pediatric Renal Nutrition Education Survey (NAPRNES). *J Ren Nutr* 2019; **29**: 91-96 [PMID: 30143308 DOI: 10.1053/j.jrn.2018.05.009]

8 **Yarbrough S**, Martin P, Alfred D, McNeill C. Professional values, job satisfaction, career development, and intent to stay. *Nurs Ethics* 2017; **24**: 675-685 [PMID: 26811397 DOI: 10.1177/0969733015623098]

9 **Boamah SA**, Read EA, Spence Laschinger HK. Factors influencing new graduate nurse burnout development, job satisfaction and patient care quality: a time-lagged study. *J Adv Nurs* 2017; **73**: 1182-1195 [PMID: 27878844 DOI: 10.1111/jan.13215]

10 **Evans A**, Loera K, Harris D, Carson S, Boutros L, Okuhara C. Development, Implementation, and Satisfaction With a Nurse Practitioner Professional Ladder: A Children's Hospital Experience. *J Pediatr Health Care* 2019; **33**: 111-116 [PMID: 30228033 DOI: 10.1016/j.pedhc.2018.06.008]

11 **Hsiao CP**, Dickinson K, Gonzalez-Mercado V, Kelly DL, Lukkahatai N, McCabe M, Mayo S, Musanti R, Saligan LN. Consortium Building for Nurse Scientists Interested in Symptoms Research in the Era of Precision Health. *J Nurs Scholarsh* 2020; **52**: 183-191 [PMID: 31804774 DOI: 10.1111/jnu.12534]

12 **Tornwall J**, Rusnak S. Frameworks and Technology for Triangulation of Feedback to Support Learning. *Nurs Clin North Am* 2022; **57**: 575-588 [PMID: 36280296 DOI: 10.1016/j.cnur.2022.06.007]

13 **Waltz LA**, Muñoz L, Weber Johnson H, Rodriguez T. Exploring job satisfaction and workplace engagement in millennial nurses. *J Nurs Manag* 2020; **28**: 673-681 [PMID: 32068932 DOI: 10.1111/jonm.12981]

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