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Comparison of professional competency and anxiety of nursing students trained based on two internship models: a comparative study

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Abstract

Background Improving the professional competency of nursing students during the internship is critical. This study aimed to compare the professional competency and anxiety of nursing students trained based on two internship models.

Methods This is a two-group posttest-only quasi-experimental design study. One hundred nursing students who passed internship models A (a previous internship model) and B (an intervention with more educator support and a more planned and programmed process) were randomly enrolled in this study. Internship model groups A and B were conducted for the students in semesters 7 and 8. The outcomes assessed in both groups were "The Competency Inventory for Registered Nurses" and Spielberger "State-Trait Anxiety Inventory". T-test and MANOVA were used to analyze the data.

Results The mean scores of competency were 134.56 (SD = 43.23) and 160.19 (SD = 35.81) for the nursing students in the internship model groups A and B, respectively. The mean scores of nursing students' anxiety were 92.14 (SD = 15.36) and 80.44 (SD = 18.16) in the internship model groups A and B, respectively. MANOVA test showed a significant difference between the groups regarding professional competency ($F = 10.34$, $p = 0.002$) and anxiety ($F = 11.31$, $p = 0.001$).

Conclusions The internship model group B could improve the professional competency of nursing students to a great extent and they experienced mild anxiety; it is suggested that this intervention should be done for nursing students. Conducting more studies to evaluate the effect of this model on the nursing students' competency and anxiety after graduation and as a novice nurse is suggested.

Keywords Anxiety, Clinical competence, Education, Internship, Students, Nursing

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Author contributions
MR, NP, RD, AP participated in conceptualization of this study. RD participated in data collection. MR and AP conducted the management the data analysis. MSH, ZM, AZ, and MN participated in the intervention management. All authors participated in writing and approving the original draft of the manuscript.

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Data availability
The data of this study would be available by email to Masoume Rambod.

Declarations

Ethics approval and consent to participate
Research Ethics Committees of Schools of Nursing and Midwifery, Management and Medical Information Science-Shiraz University of Medical Sciences approved this study (IR.SUMS.NUMIMG.REC.1402.027, approval date: 2023-05-28). Participation/non-participation of this study was voluntary. The permission to apply "The Competency Inventory for Registered Nurses" was obtained from Ming Liu by the fourth author of our study. The questionnaires were anonymous. Our study was conducted in accordance with the Declaration of Helsinki. The study purpose, procedure, probable complications and the ways of compensation, and the person responsible for these possible complications in this study were explained in the consent form. The consent to participate was obtained from the nursing students. All of the nursing students signed the consent form. We confirmed that this consent was informed. The results of this study were reported to Nursing and Midwifery School of SUMS.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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References

1. Liu M, Yin L, Ma E, Lo S, Zeng L. Competency inventory for registered nurses in Macao: instrument validation. J Adv Nurs. 2009;65(4):893–900.
2. Babamohamadi H, Aghaei N, Asgari MR, Dehghan-Nayeri N. Strategies used by Iranian nursing students for adjusting to internship: a qualitative study. BMC Med Educ. 2023;23(1):454.
3. Fereidouni Z, Hatami M, Jeihooni AK, Kashfi H. Attitudes toward community-based training and internship of nursing students and professors: a qualitative study. Investigación Y educación en enfermería. 2017;35(2):243–51.
4. Suresh H. Perception of nursing students towards internship. Nurs J India. 2012;103(2):59.
5. Esteves LS, Cunha IC, Bohomol E, Negri EC. Supervised internship in undergraduate education in nursing: integrative review. Revista Brasileira De Enfermagem. 2018;71:1740–50.
6. Karimyar Jahromi M, Momennasab M, Yektatalab S, Pasyar N, Rivaz M. Live experience of nursing students with internship program: a phenomenological study. J Educ Health Promotion. 2023;12(1):124.
7. Ahmadi S, Abdi A, Nazarianpirdosti M, Rajati F, Rahmati M, Abdi A. Challenges of clinical nursing training through internship approach: a qualitative study. J Multidisciplinary Healthc 2020 Sep 7:891–900.
8. Nematollahi M, Bagherian B, Mehdipour-Rabori R, Farokhzadian J, Khoshnood Z, Navidi Z. Implementing the internship educational method, a step to reduce the gap between theory and practice, experience of undergraduate nursing students: a qualitative content analysis study. J Qualitative Res Health Sci. 2022;11(4):253–9.
9. Shahzeydi A, Farzi S, Tarrahi MJ, Sabouhi F, Babaei S, Yazdannik A. The effect of the clinical supervision model on nursing internship students' nursing process-based performance: an experimental study. BMC Nurs. 2024;23(1):166.
10. Emrani M, Khoshnood Z, Farokhzadian J, Sadeghi M. The effect of service-based learning on health education competencies of students in community health nursing internships. BMC Nurs. 2024;23(1):138.
11. Yi QF, Yan J, Zhang CJ, Yang GL, Huang H, Yang Y. The experience of anxiety among Chinese undergraduate nursing students in the later period of their internships: findings from a qualitative study. BMC Nurs. 2022;21(1):70.
12. Bahari G, Alharbi F, Alharbi O. Facilitators of and barriers to success in nursing internship programs: a qualitative study of interns' and faculty members' perspectives. Nurse Educ Today. 2022;109:105257.
13. Aghaei N, Babamohamadi H, Asgari MR, Dehghan-Nayeri N. Barriers to and facilitators of nursing students' adjustment to internship: a qualitative content analysis. Nurse Educ Today. 2021;99:104825.
14. Rizany I, Hariyati RT, Handayani H. Factors that affect the development of nurses' competencies: a systematic review. Enfermeria Clin. 2018;28:154–7.
15. El-Sayed AA, Abdelaliem SM. Application of Kano model for optimizing the training system among nursing internship students: a mixed-method Egyptian study. BMC Nurs. 2023;22(1):316.
16. Leyva-Moral JM, Aguayo-González M, San Rafael Gutiérrez S, Jiménez Pera M, Mestres-Soler O. Understanding the expectations of nursing students following the first clinical internship: a qualitative study. Nurs Health Sci. 2022;24(1):93–100.
17. Nash J, Kamel TC, Sherer J, Nauer K. Implementing a perioperative nursing student summer internship. AORN J. 2018;107(1):83–90.
18. Liou SR, Liu HC, Tsai SL, Chu TP, Cheng CY. Performance competence of pregraduate nursing students and hospital nurses: a comparison study. J Clin Nurs. 2020;29(13–14):2652–62.
19. Liu M, Kunaiktikul W, Senaratana W, Tonmukayakul O, Eriksen L. Development of competency inventory for registered nurses in the people's Republic of China: scale development. Int J Nurs Stud. 2007;44(5):805–13.
20. Ghasemi E, Janani L, Dehghan NN, Negarandeh R. Psychometric properties of persian version of the competency inventory for registered nurse (CIRN). Iran J Nurs. 2014;27(87):1–13.
21. Spielberger CD, Sydeman SJ. State-trait anxiety inventory and state-trait anger expression inventory. In: Maruish ME, editor. The use of psychological tests for treatment planning and outcome assessment. Hillsdale, NJ: LEA; 1994. pp. 292–321.
22. Abdoli N, Farnia V, Salemi S, Davarinejad O, Jouybari TA, Khanegi M, Alikhani M, Behrouz B. Reliability and validity of Persian version of state-trait anxiety inventory among high school students. East Asian Archives Psychiatry. 2020;30(2):44–7.
23. Cohen J. Statistical power analysis for the behavioral sciences. 2nd ed. Hillsdale, N.J: L. Erlbaum Associates; 1988.
24. Holst H, Ozolins LL, Brunt D, Hörberg U. The learning space—interpersonal interactions between nursing students, patients, and supervisors at developing and learning care units. Int J Qualitative Stud Health Well-being. 2017;12(1):1368337.
25. Rebeiro G, Foster K, Hercelinskyj GJ, Evans A. Enablers of the interpersonal relationship between registered nurses and students on clinical placement: a phenomenological study. Nurse Educ Pract. 2021;57:103253.
26. Lin H, Yan M, Fang Y, Wang Y. Barriers to the completion of bachelor thesis for bachelor nursing students during their internship: a qualitative study from dual student and faculty perspectives. Nurse Educ Today. 2024;132:105997.
27. Luo Z, Tao L, Wang CC, Zheng N, Ma X, Quan Y, Zhou J, Zeng Z, Chen L, Chang Y. Correlations between moral courage, moral sensitivity, and ethical decision-making by nurse interns: a cross-sectional study. BMC Nurs. 2023;22(1):260.