

What is the Evidence that Level of Education of Professional Nurses Leads to Improved Patient Outcomes?



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PICO

- P-Professional Registered Nurses
- I-Level of Education
- C-Diploma/Associates Degree vs. Baccalaureate Degree
- O- Patient Outcomes

ABSTRACT

With more than 3 million members, the nursing profession is the largest segment of the nation’s health care workforce. Patient needs have become more complicated, and nurses need to attain requisite competencies to deliver high-quality care. The clinical question examined was what is the evidence that level of education of professional nurses leads to improved patient outcomes? The information used for this study was obtained through online searches of journal articles. Some of the articles reviewed focused on RN education levels and hospital mortality rates, while others expanded its research to include the effects of education on other-nurse sensitive outcomes. The Institute of Medicine (IOM) recommends increasing the percentage of RNs with baccalaureate degrees from 50% to 80% by the year 2020 (Institute of Medicine, 2010). Articles that would support this growing body of research, to move toward BS education for RNs to decrease mortality and improve patient outcomes were explored.

CLINICAL IMPLICATIONS

Colleges and universities throughout the United States have many Registered Nurse (RN) to Bachelors of Science in Nursing (BSN) programs as part of their nursing schools and many large hospitals in urban areas will not hire RNs without their BSNs. Over the past 40 years, researchers have studied the association between nursing education levels and the quality of care provided. The evidence base for baccalaureate nursing education is growing; however, it is still equivocal. Despite the lack of consistent evidence, many nursing administrators want nurses prepared at the baccalaureate (BS) level. There is a need for further studies of RN education examining nursing-sensitive patient outcomes while controlling for other factors known to affect outcomes, such as nurse staffing and hospital and patient characteristics (Blegen et al., 2013). With a greater body of stronger proof supporting the need for nurses prepared at the baccalaureate level, policy makers, educators, and administrators would have a stronger evidence base on which to make their decisions regarding the encouragement and funding for nurses’ higher education (Blegen, Goode, Park, Vaughn, & Spetz, 2013).

SUMMARY OF REVIEWED ARTICLES

Study	Author	Date	Type of Study	Level of Evidence	Results
Effects of nurse staffing and nurse education on patient deaths in hospitals with different nurse work environments	Aiken, L., Cimiotti, J., Sloane, D., Smith, H., Flynn, L., & Neff, D	2011	Cross-Sectional Study	III	A 10% increase in nurses with BSN degrees leads to a mortality and failure to rescue reduction of 4% while improved nurse work environments lead to mortality and failure to rescue reduction of 8%. (< .0001 < p < .003)
Educational levels of hospital nurses and surgical patient mortality	Aiken, L. H., Clarke, S. P., Cheung, R. B., Sloane, D. M., & Silber, J. H	2003	Cross-Sectional Study	III	Each 10% increase in the proportion of RNs with higher degrees decreased the risk of mortality and of failure to rescue by a factor of 0.95, or by 5%. (P<0.05)
Baccalaureate education in nursing and patient outcomes	Blegen, M. A., Goode, C. J., Park, S.H., Vaughn, T., & Spetz, J	2013	Cross-Sectional Study	III	Hospitals in this study with higher proportions of BS-educated RN’s had lower rates of HAPUs, postoperative DVT/PE, and LOS as well as failure to rescue and CHF mortality. (P<0.05)
Hospital nurse practice environments and outcomes for surgical oncology patients	Friese, C. R., Lake, E. T., Aiken, L. H., Silber, J. H., & Sochalski, J	2008	Secondary Analysis	III	Hospitals in this study with higher proportions of BS-educated RNs has lower mortality (P<0.05) and failure to rescue rates. (P<0.01)
Impact of critical care nursing on 30-day mortality of mechanically ventilated older adults*.	Kelly, D., Kutney-Lee, A., McHugh, M., Sloane, D., & Aiken, L	2014	Cross-Sectional Study	III	For every 10 point increase in the % of BSN prepared RNs there is a reduction of mortality by 2% (P value <0.05)
Nurse specialty certification, inpatient mortality, and failure to rescue	Kendall-Gallagher, D., Aiken, L. H., Sloane, D. M., & Cimiotti, J. P.	2011	Cross-Sectional, Descriptive Study	III	For every 10% increase of BSN RNs there is a 6% decrease in mortality and failure to rescue. (p < .001) For every 10% increase of BSN RNs who are certified there is a 2% decrease in mortality and failure to rescue rates. (p < .01)
An Increase in the number of nurses with baccalaureate degrees is linked to lower rates of post-surgery mortality	Kutney-Lee, A., Sloane, D. M., & Aiken, L. H	2013	Longitudinal Cross-Sectional Study	III	For every 10 point increase in the % of BSN prepared RNs, there is an average reduction of 2.12 deaths for every 1,000 patients (p<0.01). For patients with complications, results reveal that the same 10 point increase shows an average reduction of 7.47 deaths per 1,000 patients (p=0.001)

DATABASES USED

CINAHL, Medline, OVID, and Health Reference Center Academic

CONCLUSION

All 7 studies showed a statistically and clinically significant improvement in patient outcomes when more hospital registered nurses were educated at the baccalaureate level. A 10-point increase in a hospital’s percentage of nurses with a BSN degrees or higher showed statistically significant decreases in both mortality and failure to rescue across all 7 studies. The results of all 7 studies support the IOM’s 2010 Report on Nursing calling for 80% of registered nurses to be educated at the baccalaureate level by the year 2020. The study findings are consistently showing that an investment by hospitals to raise their nursing education levels to the baccalaureate level is important to improve patient outcomes. In addition to improved patient outcomes, the studies show financial benefits for the hospitals as well with reduced rates of complications and shorter lengths of stay. Other nursing characteristics are important to consider, but a concentration on BSN degree prepared nurses is showing the most consistent clinical significance at this time for decreased patient mortality and decreased numbers of complications.

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