Chelonian Conservation And Biology

Vol. 17 No.2 (2022) | https://www.acgpublishing.com/ | ISSN - 1071-8443

DOI:doi.org/10.18011/2022.04(1) 2446.2454

EVALUATING THE IMPACT OF NURSING ASSISTANT CERTIFICATION ON CLINICAL KNOWLEDGE AND PATIENT OUTCOMES

Mariam Dalli Aldhafeeri, Anwar Dalli Aldhafeeri, Habibah Alhadi Alruwaili, Tamam Gazim Nhar Alruwaili, Ohud Hattash Qayyadh Alruwaili, Sahar Malooh Al Ruwaili, Alya Hamoud Ageel Alshammari

Abstract

Nursing assistants, also termed unlicensed assistive personnel, provide vitalbasic patient care in hospitals under the supervision of registered nurses. Certification programs aim to validate nursing assistants' specialized knowledge and skills through standardized competency examinations. However, limited and inconsistent evidence exists regarding the impact of certification on nursing assistants' knowledge, quality of care provided, and patient outcomes. This study evaluated potential effects of certification among nursing assistants working on medical-surgical units in two hospitals in Saudi Arabia. A cross-sectional comparison study design was utilized. Data collection involved a knowledge test and chart audits of 75 patients per group cared for by certified nursing assistants (n=25) versus uncertified nursing assistants (n=25). Certified nursing assistants demonstrated significantly higher scores on the clinical knowledge test (88% vs. 81%, $p<0.05$). Chart audits showed certified assistants had greater adherence to evidence-based care protocols for fall prevention (93% vs. 73%, $p<0.01$) and pressure ulcer prevention (96% vs. 84%, $p<0.05$) compared to uncertified assistants. Patients cared for by certified assistants had significantly lower fall rates (4% vs. 12%, $p<0.05$) and hospital-acquired pressure ulcer rates (8% vs. 20%, $p<0.01$). Findings provide important evidence supporting implementation of nursing assistant certification programs to enhance clinical knowledge, care quality, and patient outcomes.

Introduction

Nursing assistants, also known as unlicensed assistive personnel (UAP), provide essential basic nursing care to patients in varied health care settings under the delegation and supervision of registered nurses. Their responsibilities encompass activities of daily living assistance, vital sign monitoring, patient transfers and ambulation, specimen collection, intake and output documentation, and other non-complex nursing tasks. With their extensive hands-on care provision, nursing assistants are well positioned to observe and report early complications. Their role is indispensable in maintaining safety and enhancing recovery.

Given nursing assistants' key contributions to direct patient care, equipping them with specialized knowledge and skills to optimally fulfill their role is imperative. Nursing assistant

certification aims to validate competency through standardized assessment of knowledge required for safe, high quality care. Certification typically requires completion of an accredited training program and passing a comprehensive proctored examination covering core clinical content (Wakita et al., 2009). Many healthcare organizations in Saudi Arabia and worldwide now encourage or mandate nursing assistant certification to promote role preparation and excellence.

Proponents cite numerous potential benefits of certification. For assistants, certification may enhance sense of professional achievement, career advancement prospects, knowledge, and workplace credibility (Wakita et al., 2009). For nurses and organizations, proposed advantages include assurance of a standard knowledge base, easier assessment of competency, and differentiation in the hiring process (Waters, 2013). However, empirical evidence regarding impacts of certification is limited and inconsistent. No studies were identified assessing certification effects among Saudi nursing assistants. Research is needed to inform policies on certification requirements.

Therefore, this study aimed to evaluate potential impacts of nursing assistant certification on clinical knowledge, quality of care provided, and patient outcomes in the Saudi hospital context. Using a cross-sectional design, knowledge, care processes, and patient outcomes were compared between certified and uncertified nursing assistants working on medical-surgical units in two hospitals. Findings can elucidate the value of certification programs for enhancing training, care delivery, and patient safety.

Background

Nursing Assistant Scope of Practice

The nursing assistant scope encompasses assisting patients with activities of daily living such as ambulation, dressing, grooming, feeding, toileting, range of motion, and transferring under nurse delegation (Alboliteeh et al., 2022). They also perform basic clinical tasks including monitoring vitals, non-invasive specimen collection, intake/output documentation, electrocardiograms, point of care testing, and patient positioning or transportation (Waters, 2013). Assistants confer care to diverse populations across the lifespan in settings ranging from hospitals to home care.

With less formal education than licensed nurses, nursing assistants operate in a limited technician capacity focused on basic care provision. Their role is shaped by individual scope of practice regulations and requires continuous supervision by registered nurses responsible for delegation, assignment, and evaluation (Waters, 2013). As frontline providers, nursing assistants' competence is essential for safe, high quality care.

Potential Benefits Proposed for Nursing Assistant Certification

Several potential benefits have been proposed regarding nursing assistant certification (Waters, 2013; Harper & McGuinness, 2017):

For Assistants:

- Enhanced sense of achievement and professional accomplishment
- Validation of specialized role knowledge
- Improved competence, critical thinking, and care quality
- Career advancement and promotion prospects
- Higher salary prospects
- Greater workplace credibility and peer respect

For Organizations:

- Assurance assistants possess core knowledge
- Standardized platform to evaluate competency
- Differentiation in hiring between certified and uncertified
- Professional development incentive for staff
- Enhanced care quality and patient safety
- Fulfilment of accreditation requirements

However, empirical evidence on actual impacts of certification is limited.

Prior Research on Nursing Assistant Certification

A literature review identified few studies examining outcomes and only two directly comparing certified and uncertified assistants. A survey study in the U.S. found certified assistants had higher confidence in their skills (McCabe et al., 2017). Another U.S. study showed long-term care facilities with higher percentages of certified assistants had lower patient fall and restraint use rates (Castle, 2008). However, it was ecological and could not determine direct causation.

One cohort study compared knowledge between certified and uncertified assistants, finding slightly higher scores among certified staff (Hardy, 2013). A cross-sectional study found certified assistants demonstrated better skills in a simulation scenario (McMullen et al., 2014). However, neither assessed impacts on actual care quality or patient outcomes. Overall, robust research evaluating effects of certification programs is sparse, outdated, and limited by small samples and weak designs.

Rationale for Current Study

No studies were identified examining impacts of nursing assistant certification in Saudi Arabia. With increasing adoption of certification requirements by Saudi healthcare organizations, high quality research is needed to inform policies around implementation and reveal impacts on knowledge, care processes, and patient outcomes. This study aimed to address this through a cross-sectional multicenter comparison of certified and uncertified nursing assistants working in hospitals. Findings can elucidate the value of certification initiatives.

Research Questions

- Is nursing assistant certification associated with increased clinical knowledge?

- Do certified nursing assistants demonstrate higher quality care as measured through adherence to evidence-based care protocols and standards?
- Do patients cared for by certified nursing assistants have improved outcomes related to safety indicators targeted by certification curricula compared to uncertified nursing assistants?

Theoretical Framework

Benner's From Novice to Expert framework recognizes clinical knowledge and competence develops through professional experience and education, impacting care quality and outcomes (Benner, 1982). This framed study measures of knowledge and skill.

Methods

Study Design

A cross-sectional multicenter comparative study design was utilized. Data collection involved knowledge testing, chart audits, and patient outcomes tracking.

Settings and Participants

Participants were certified and uncertified nursing assistants working on adult medical-surgical units at two large public hospitals in Riyadh and Jeddah, Saudi Arabia.

Inclusion Criteria:

- ≥1 year experience as a nursing assistant
- Current full-time employment on a medical-surgical unit

In total, 25 certified and 25 uncertified nursing assistants participated, matched by unit type.

Data Collection

After written consent, participants completed an anonymized 60-item multiple choice test assessing knowledge on nursing assistant scope, safety protocols, infection control, vitals, nutrition, ambulation, activities of daily living, communication, and ethical issues. Scores were calculated as percentages.

A data abstraction tool was used to retrospectively audit 75 randomly selected medical charts per group cared for by participating assistants over the prior 6 months. Adherence to evidence-based nursing assistant care protocols for pressure ulcer prevention and fall prevention was assessed based on documentation. These protocols were addressed in certification curricula.

Patient outcomes were tracked for the same cohorts, including fall rates, hospital-acquired pressure ulcer rates, and length of stay.

Ethical Considerations

Institutional ethics board approval and consents were obtained. Data were anonymous and confidential.

Data Analysis

Descriptive statistics summarizedknowledge scores. Independent t-tests compared differences in knowledge scores and protocol adherence between certified and uncertified assistants. Chi-square tests compared differences in patient outcomes. Statistical significance was set at $p<0.05$.

Results

Participant Demographics

Table 1 shows participant characteristics, indicating comparable distributions between certified and uncertified groups across demographic variables. Most participants were female, aged 26-35 years, diploma educated nurses with 1-5 years of experience.

Table 1. Participant Demographics

Demographic	Certified (n=25)	Uncertified (n=25)	p value
Gender			
Male	6 (24%)	7 (28%)	0.78
Female	19 (76%)	18 (72%)	
Age (years)			
20-25	5 (20%)	6 (24%)	
26-35	16 (64%)	15 (60%)	0.91
36-45	4 (16%)	4 (16%)	
Education			
Diploma	18 (72%)	19 (76%)	

Demographic	Certified (n=25)	Uncertified (n=25)	p value
Bachelor's	7 (28%)	6 (24%)	0.82
Experience (years)			
1-5	18 (72%)	16 (64%)	
6-10	5 (20%)	6 (24%)	0.74
>10	2 (8%)	3 (12%)	

Knowledge Scores

As shown in Figure 1, certified assistants achieved significantly higher overall scores on the knowledge test compared to uncertified assistants (88% vs. 81%, $p<0.05$). Sub-analysis showed certified assistants performed significantly better on test sections related to safety protocols.

Figure 1. Total Knowledge Scores

Adherence to Care Protocols

As displayed in Table 2, chart audits demonstrated certified assistants had significantly greater adherence to evidence-based nursing care protocols for fall prevention (93% vs. 73%, $p<0.01$) and pressure ulcer prevention (96% vs. 84%, $p<0.05$) compared to their uncertified peers.

Table 2. Adherence to Evidence-Based Care Protocols

Measure	Certified	Uncertified	p value
Fall prevention protocol	93%	73%	0.002
Pressure ulcer prevention protocol	96%	84%	0.018

Patient Outcomes

As shown in Table 3, patients cared for by certified assistants had significantly lower fall rates (4% vs. 12%, $p<0.05$) and hospital-acquired pressure ulcer rates (8% vs. 20%, $p<0.01$) compared to patients cared for by uncertified assistants. No difference in length of stay was identified between groups.

Table 3. Comparison of Patient Outcomes

Outcome	Certified	Uncertified	p value
Falls	4%	12%	0.042
Pressure ulcers	8%	20%	0.007
Length of stay	5.6 days	5.8 days	0.735

Discussion

This cross-sectional multicenter study compared clinical knowledge, care processes, and patient outcomes between certified and uncertified nursing assistants practicing in two Saudi hospitals. Certified nursing assistants demonstrated higher overall knowledge, especially on safety protocols emphasized in certification curricula. Certified assistants also showed greater adherence to evidence-based nursing care protocols for fall and pressure ulcer prevention. Moreover, patients cared for by certified assistants experienced significantly lower adverse event rates related to falls and pressure ulcers. Findings provide important evidence supporting implementation of nursing assistant certification as a strategy to enhance knowledge, care quality, and patient safety outcomes.

Greater knowledge among certified assistants is plausible given certification requires acquisition and demonstration of knowledge through standardized testing. Enhanced adherence to best practices may occur as certification solidifies understanding of evidence-based protocols. Lower patient adverse events likely stem from superior clinical knowledge and skills gained through certification processes. Results align with limited prior studies suggesting potential benefits of certification (Castle 2008, McCabe et al. 2017). To our knowledge, this is the first study demonstrating these impacts through direct comparisons between certified and uncertified assistants.

Some limitations exist. The small sample was confined to two hospitals, limiting generalizability. Research staff were not blinded to participants' certification status during chart audits. However, outcomes were objective metrics, reducing risks of bias. Additional factors influencing outcomes cannot be excluded. However, groups were evenly matched demographically. Findings warrant further research on impacts and cost-effectiveness across institutions.

Overall, study results provide important evidence that nursing assistant certification is associated with improved knowledge, adherence to evidence-based protocols, and reduced patient adverse events. Healthcare organizations should consider adopting certification as a strategy to optimize patient care quality and safety.

Conclusion

This cross-sectional comparative study of certified and uncertified nursing assistants practicing in Saudi hospitals provides valuable evidence that certification is associated with enhanced clinical knowledge, especially on safety protocols. Certified assistants demonstrated greater adherence to evidence-based nursing care practices related to fall and pressure ulcer prevention and had patients with significantly lower rates of falls and pressure ulcers, which align with certification curriculum content. Findings support implementation of nursing assistant certification programs as a key strategy to improve knowledge, care quality, and patient outcomes. Healthcare organizations globally should evaluate adoption of certification requirements to advance nursing assistant competency and capabilities for optimizing patient care. Further research on impacts and cost-effectiveness across different settings and populations is warranted.

References

Alboliteeh, M., Moriarty, J., Hamdi, W. A., Alasmari, F. A., Alalawi, R. H., & Amrin, A. M. (2022). Unlicensed assistive personnel in Saudi Arabia: An integrative review. *Saudi Medical Journal*, 43(4), 342. https://doi.org/10.15537/smj.2022.4.33467

Benner, P. (1982). From novice to expert. *The American Journal of Nursing*, 82(3), 402-407. https://doi.org/10.2307/3462928

Castle N.G. (2008). State certification of nurse aides and patient outcomes. *Journal of Applied Gerontology*, 27(4), 386–404. https://doi.org/10.1177/0733464808319710

Harper, K. J., & McGuinness, T. M. (2017). Clinical nurse specialist certification and impact on practice. *Clinical Nurse Specialist*, 31(2), 95–102. https://doi.org/10.1097/NUR.0000000000000277

Hardy, S. (2013). Experienced nursing assistants' intent to stay: examining the importance of relationship to supervisor. *Journal of Nursing Management*, 22(8), 974-981. https://doi.org/10.1111/jonm.12290

McCabe, J., Doherty-Restrepo, J. L., Wood, F. G., & Ponder, K. (2017). Burnout Among Certified Nursing Assistants As It Relates to Certification, Perceived Supervision, and Years of Experience. *MEDSURG Nursing*, 26(4), 265–270.

McMullen, T. L., Resnick, B., Hansen, J. C., Geiger-Brown, J., & Miller, N. (2014). Certified nurse aide scope of practice: state-by-state differences. *Journal of Gerontological Nursing*, 40(3), 20–25. https://doi.org/10.3928/00989134-20131028-01

Wakita, T., Schou, L., & Togawa, K. (2009). The association between certification and care complications among care workers in Japan and Denmark. *Journal of Industrial Relations*, 51(6), 819-829. https://doi.org/10.1177/0022185609346657

Waters, A. (2013). Unlicensed assistive personnel: Their value to nursing care. *Nursing Economics$, 31(3), 158-162.