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New Graduate Nurses, New Graduate Nurse Transition Programs, and Clinical Leadership Skill

CE 2.0 ANCC Contact Hours

A Systematic Review

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This systematic review evaluated the relationship between new graduate nurses and clinical leadership skill, and between new graduate nurse transition programs and clinical leadership skill. New graduate nurse transition programs have been cited as one strategy to improve clinical leadership skill, but to our knowledge, no one has synthesized the evidence on new graduate nurse transition programs and clinical leadership skill. Results of this review showed that new graduate nurse transition programs that were at least 24 weeks in length had a positive impact on clinical leadership skill. New graduate nurse transition programs using the University HealthSystem Consortium/American Association of Colleges of Nursing Nurse Residency curriculum had the greatest impact, followed by curriculum developed by the Versant New Graduate RN Residency, an important finding for nursing professional development specialists.

BACKGROUND

New graduate nurses are expected to rapidly develop clinical leadership skill to provide safe, high-quality patient care. Clinical leadership skill is defined as "staff nurse behaviours that provide direction and support to clients and the health care team in the delivery of patient care" with five defining characteristics: clinical expertise, effective communication, collaboration, coordination, and interpersonal understanding (Patrick, Laschinger, Wong, & Finegan, 2011). Clinical leadership skill has been associated with improved patient outcomes (Aiken, Cimiotti, Sloane, Smith, & Neff, 2011; Kutney-Lee, Lake, & Aiken, 2009). In a study conducted by the Nursing Executive Center of the Advisory Board Company, nursing leaders expressed little satisfaction with new graduate nurses' clinical leadership skill (Berkow, Virkstis, Stewart, & Conway, 2008).

New graduate nurse transition programs (NGNTPs) have been proposed to facilitate transition of new graduate nurses into practice and develop clinical leadership skill (Institute of Medicine, 2011). Research suggests NGNTPs vary significantly in quality and length (Baxter, 2010; Kowalski & Cross, 2010). New graduate nurse transition programs may be limited to brief hospital orientations followed by short clinical orientations, or new graduate nurse transition programs may be robust with supplemental experiences that take place over 6 months or more months. Because organizations use the terms "residency program" and "orientation" to reflect transition programs that vary significantly in scope, this systematic review included search terms to reflect both, and characteristics of the programs were used for comparison purposes.

The Institute of Medicine recommends 1-year new graduate nurse transition programs (Institute of Medicine, 2011). A robust new graduate nurse transition program requires significant fiscal investment. For nursing leaders to commit resources, there must be a positive impact on new graduate nurses' clinical practice. The purpose of this study was to conduct a systematic review to evaluate the relationship between (a) new graduate nurses and clinical leadership skill and (b) new graduate nurse transition programs and clinical leadership skill.

METHODS

A systematic review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-analysis guidelines (see Figure 1; Moher, Liberati, Tetzlaff, & Altman, 2009). Electronic databases (CINAHL, MEDLINE, and Cochrane Library) were searched from January 2000 to January 2013 to identify studies evaluating the relationship between new graduate nurses and clinical leadership skill, and between

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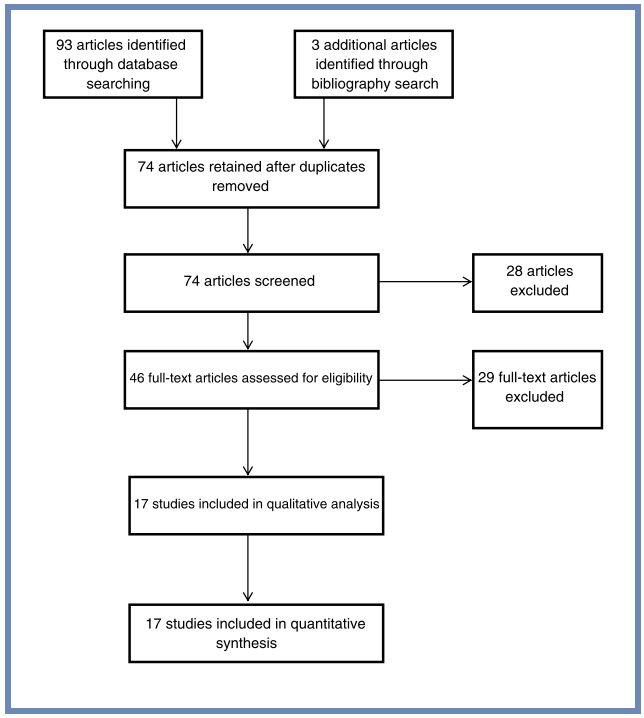

FIGURE 1 Systematic review process to evaluate the relationship between (a) new graduate nurses and clinical leadership skill and (b) new graduate nurse transition programs and clinical leadership skill.

NGTPs and clinical leadership skill. Search terms included "new nurse," "new graduate," "new graduate nurse," "residency," "internship," "orientation," "transition," and "leadership." Additional limitations included English language, research studies, and published in peer-reviewed journals. Ninety-three articles were identified. Three additional articles were identified through bibliography review. Nineteen duplicate articles were eliminated. Upon review of abstracts, 28 articles did not pertain to the topic and were excluded. Forty-six full text articles were assessed for eligibility, and 29 articles were excluded. Studies were excluded if they did not evaluate the relationship between new graduate nurses and clinical leadership skill, or between NGNTPs and clinical leadership skill. A total of 17 articles were retained. One study evaluated the relationship between new graduate nurses and clinical leadership skill in the absence of any intervention, and 16 studies evaluated the relationship between NGNTPs and clinical leadership skill. A synthesis of the 17 studies meeting inclusion criteria is presented below.

RESULTS

Demographics

The total number of new graduate nurses participating in the inclusion studies was over 4,000 (range, 5–1,100+). New graduate nurses were predominantly female and younger than 35 years. Educational preparation was not reported in six studies. The remaining studies included results from baccalaureate nurses (two); associate degree and baccalaureate nurses (six); diploma and baccalaureate nurses (two); and associate, diploma, baccalaureate, master's, and "other" prepared nurses (one; see Table 1).

Study Designs and Characteristics of NGNTPs

Fifteen studies were based in the United States, one in Scotland, and one in New Zealand. Study designs were repeated measures with and without a comparison group, pre/posttest with and without a comparison group, case study, or classified as program evaluation (see Table 2). Two studies evaluated academic preparation. Only six studies used a comparison group, and the most common comparison group was new graduate nurses completing orientation prior to implementation of an NGNTP. No studies using a randomized controlled trial or comparative effectiveness design were identified. Eight studies were published between 2000 and 2008, and nine were published between 2009 and 2012, indicating an increased interest in this topic.

Curriculum for NGNTPs was developed by the University HealthSystem Consortium/American Association of Colleges of Nursing (UHC/AACN) Nurse Residency Program (three), an academic practice partnership (three), the Versant New Graduate RN Residency (two), or the organization running the NGNTP (eight). Most NGNTPs were 1 year in length (13), and three NGNTPs averaged 22–24 weeks in length (see Table 2).

Clinical Leadership Skill Measurement

Clinical leadership skill was most often measured through self-report; however, three studies also reported new graduate nurses' peer and supervisor evaluations. Instruments used to measure clinical leadership skill included researcher-developed tools, the Casey–Fink Graduate Nurse Experience Survey (Casey–Fink), the Essentials of Magnetism Scale, the Gerber Control Over Nursing Practice Scale (Control Over Nursing Practice), the Halfer–Graf Job/Work Environment Nursing Satisfaction Survey (Halfer–Graf), the Leader Empowerment Behaviours Scale, the McCloskey–Mueller Satisfaction Scale (McCloskey–Mueller), the Nurses' Self-Concept Questionnaire, the Schutzenhofer Professional Nursing Autonomy Scale (Schutzenhofer), and the Schwirian Six-D Scale (Schwirian; see Table 3). Instruments measured clinical leadership skill directly or clinical leadership skill as a domain of an instrument, or items in the instrument measured clinical leadership skill as defined by Patrick et al. (2011).

Study Results

Findings were analyzed based on two outcomes: new graduate nurses and clinical leadership skill independent of an interventional program, and NGNTPs and clinical leadership skill).

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TABLE 1 Participant Demographics

Reference	Sample size	Degree types	Age of participants	Gender of participants
Bartlett et al. (2000)	59	36% Diploma, 64% BSN	N.R.	96% F (Dip.) 90% F (BSN)
Beecroft et al. (2007)	889	43%: ADN or lower, 57% BSN or higher	76%: < 30 16%: 31–40 8%: > 40	N.R.
Beecroft et al. (2001)	75	Intern: 42% ADN, 58% BSN; Control: 24% ADN, 64% BSN, 8% Masters, 4% Other	Intern: 75%: < 30 Control: 74%: < 30	N.R.
Blanzola et al. (2004)	18	N.R.	N.R.	N.R.
Bratt (2009)	1100+	N.R.	N.R.	N.R.
Cleary et al. 2009)	45	N.R.	35%: <30 11% 31–40 52%: >40	75% F
Goode et al. (2009)	655	100% BSN	Mean: 25.6	91% F
Halfer et al. (2008)	237	N.R.	54.2%: Gen X; 45.4%: Gen Y	N.R.
Hatler et al. (2011)	22	N.R.	N.R.	N.R.
Keller et al. (2006)	72	19% ADN, 81% BSN	63%: <30, 23%: 31–40, 14%: > 40	88% F
Kowalski and Cross (2010)	55	41.8% ADN, 58.2% BSN	61.8%: <30, 25.5%: 31–40, 12.7%: >40	83.6% F
Olson-Sitki et al. (2012)	31	42% ADN, 58% BSN	74%: <35	87% F
Roud et al. (2005)	33	N.R.	56%: <25	87% F
Thomson (2011)	84	50% ADN, 50% BSN	Mean (ADN): 30.5; Mean (BSN): 28.2	95.2% F (ADN) 97.6% F (BSN)
Turner and Goudreau (2011)	5	80% Diploma, 20% BSN	Range: 23–35	100% F
Varner and Leeds (2012)	N.R.	60% ADN, 40% BSN	N.R.	N.R.
Williams et al. (2007)	679	100% BSN	Mean (alpha): 5.16 Mean (beta): 25.55	93% F (α) 88% F (β)

Note. N.R. = not reported; BSN = baccalaureate degree in nursing; ADN = associate degree in nursing; F = female.

New graduate nurses and clinical leadership skill

Evidence from one study using a single convenience sample suggests that clinical leadership skill in new graduate nurses improves significantly over the first year of practice regardless of any intervention. As measured at three different points in time on the Schwirian Leadership domain, self-report scores of baccalaureate and diploma program nurses improved significantly over the first year of practice ($p <$ .001; Bartlett, Simonite, Wescott, & Taylor, 2000). Leadership scores for diploma program nurses were higher than scores of baccalaureate nurses at all three points in time ($p < .011$; see Table 3; Bartlett et al., 2000). There were insufficient data reported to calculate effect size.

NGNTPs and clinical leadership skill

Single group designs. Eight studies evaluated change in clinical leadership skill using repeated-measures or pre/posttest measures of convenience samples in single group designs (Beecroft, Dorey, & Wenton, 2007; Cleary, Matheson, & Happell, 2009; Goode, Lynn, Krsek, & Bednash, 2009; Hatler, Stoffers, Kelly, Redding, & Carr, 2011; Kowalski & Cross, 2010; Olson-Sitki, Wendler, & Forbes, 2012; Roud, Giddings, & Koziol-McLain, 2005; Williams, Goode, Krsek, Bednash, & Lynn, 2007). All clinical leadership skill measures were self-reported. Four studies reported statistically significant improvements in clinical leadership skill from

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TABLE 2 Study Designs and Program Characteristics

Reference	Study Design	Comparison Group	Type of Program	Curriculum	Length of Program
Bartlett et al. (2000)	Repeated measures	Diploma to BSN	None	None	None
Beecroft et al. (2007)	Pre/post	None	NGNTP	Versant	22 weeks
Beecroft et al. (2001)	Repeated measures	Preprogram	NGNTP	Versant	6 months
Blanzola et al. (2004)	Pre/post	Preprogram	NGNTP	Organization	24 weeks
Bratt (2009)	Program evaluation	Preprogram	NGNTP	APP	1 year
Cleary et al. (2009)	Pre/post	None	NGNTP	Organization	1 year
Goode et al. (2009)	Repeated measures	None	NGNTP	UHC/AACN	1 year
Halfer et al. (2008)	Pre/post	Preprogram	NGNTP	Organization	1 year
Hatler et al. (2011)	Pre/post	None	NGNTP	Organization	1 year
Keller et al. (2006)	Program evaluation	None	NGNTP	APP	1 year
Kowalski and Cross (2010)	Pre/post	None	NGNTP	APP	1 year
Olson-Sitki et al. (2012)	Pre/post	None	NGNTP	Organization	1 year
Roud et al. (2005)	Pre/post	None	NGNTP	Organization	1 year
Thomson (2011)	Repeated measures and group comparison	ADN to BSN	NGNTP	UHC/AACN	1 year
Turner and Goudreau (2011)	Case study	None	NGNTP	Organization	1 year
Varner and Leeds (2012)	Program evaluation	Preprogram	NGNTP	Organization	1 year
Williams et al. (2007)	Repeated measures	None	NGNTP	UHC/AACN	1 year

Note: NGNTP = New Graduate Nurse Transition Program; APP = academic practice partnership; UHC/AACN = University HealthSystem Consortium/American Association of Colleges of Nursing Nurse Residency Program; Versant = Versant New Graduate RN Residency.

baseline through postprogram ($p \leq .05$) as measured using the Casey–Fink Communication and Leadership, Control Over Nursing Practice Clinical Leader, and McCloskey–Mueller Control/Responsibility domains (Goode et al., 2009; Kowalski & Cross, 2010; Olson-Sitki et al., 2012; Williams et al., 2007). One study reported statistically significant improvements in clinical leadership skill as measured at two time periods on the Schwirian Leadership domain (Roud et al., 2005). Two studies failed to report statistical significance, but did report increased clinical leadership skill as measured by the Leader Empowerment Behaviours Scale and the Essentials of Magnetism Scale (Beecroft et al., 2007; Hatler et al., 2011). One study reported no statistically significant change in clinical leadership skill as measured by

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TABLE 3 Instrument, Program Outcomes, Effect Size, and Change in Leadership Score

Reference	Instrument	Clinical Leadership Skill	Effect Size Calculated Cohen's *d*)	Change in Leadership Score
Bartlett et al. (2000)	Schwirian	Mean leadership scores for diploma nurses higher across all three time periods as compared to baccalaureate prepared nurses (p <.011); scores for diploma nurses decreased at 6 months then increased higher than baseline; scores for baccalaureate-prepared nurses increased steadily over time; leadership scores for all nurses increased from pre- to postprogram	Lack of data to calculate	p < .001
Beecroft et al. (2007)	LEB	Higher leadership scores following residency correlated with lower turnover intent (p < .001)	N/A	N.R.
Beecroft et al. (2001)	Schutzenhofer	No statistically significant differences in leadership scores between new graduate nurses participating in residency program as compared to registered nurses with more than twice clinical experience; total score on instrument higher at baseline, dipped at 6 months, then increased but not back to baseline	Pre to post: .58 (moderate to large effect size)	N.R.
Blanzola et al. (2004)	Researcher-developed	Leadership skills improved baseline to 6 months for pilot group, statistical significance not reported; leadership scores higher for pilot group as compared to control group at 6 months as scored by peer evaluation (p = .005)	Lack of data to calculate	N.R.
Bratt (2009)	None	Managers described ''pool of ready leaders''; assumed preceptor and charge RN roles faster	N/A	N/A
Cleary et al. (2009)	NSCQ	Leadership scores improved pre- to postprogram; reported as not statistically significant but no p value	N/A	No
Goode et al. (2009)	CF, CONP, MMSS	Leadership scores increased over 12-month residency on CF (p = .000), CONP (p = .026); on MMSS, scores decreased then improved (p = .000)	Pre to post: CF Communication and Leadership = .64 (moderate to large effect size); CONP Clinical Leader = .12 (small effect size); MMSS Control/Responsibility = .21 (small effect size)	CF: p = .000, CONP: p = .026, MMSS: p = .000
Halfer et al. (2008)	Halfer–Graf	Overall understanding of leadership expectations improved from pre- to postprogram	Lack of data to calculate	p < .0001
Hatler et al. (2011)	Essentials of Magnetism	Increase in control over nursing practice, statistical significance not reported	Pre to post: .19 (small effect size)	N.R.

Continued

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TABLE 3 Instrument, Program Outcomes, Effect Size, and Change in Leadership Score, Continued

Reference	Instrument	Clinical Leadership Skill	Effect Size Calculated Cohen's *d*)	Change in Leadership Score
Keller et al. (2006)	None	Program incorporated graduate level leadership development content; content perceived positively but moved to later in program as residents not ready at beginning	N/A	N/A
Kowalski and Cross (2010)	CF	Leadership scores increased from pre- to postprogram on CF ($p = .022$)	Lack of data to calculate	$p = .022$
Olson-Sitki et al. (2012)	Researcher-developed and CF	Significant differences on five of six items within the subscale of communication/leadership from pre- to postprogram	Lack of data to calculate	$p < .05$
Roud et al. (2005)	Schwirian and researcher-developed	Frequency of leadership behavior increased from evaluation at 7 weeks to evaluation at 7 months	Pre to post: .57 (moderate to large effect size)	$p = .002$
Thomson (2011)	CF, CONP, MMSS	No statistically significant differences in leadership scores between ADN and BSN nurses on CF and CONP; statistically significant difference between ADN and BSN on MMSS (control and responsibility; $p = .0249$); leadership scores for both ADN and BSN nurses improved over time in the CF Communication and Leadership domain; scores on the CONP Clinical Leadership domain and the MMSS Control and Responsibility domains were higher at baseline, dipped at 6 months then increased but not back to baseline	Lack of data to calculate	N.R.
Turner and Goudreau (2011)	None	Analysis of case study narratives revealed that new graduate nurses exhibited a growing sense of professionalism including "the practice of clinical leadership"	N/A	N/A
Varner and Leeds (2012)	None	Manager satisfaction with resident performance strong; cited quality patient care, increased unit involvement and selection for leadership roles	N/A	N/A
Williams et al. (2007)	CF, CONP, MMSS	Leadership scores progressively increased on CF and CONP; scores on MMSS decreased then increased; all scores statistically significant at $p \leq .05$	Pre to post: CF Communication and leadership = 1.29/1.22 (alpha/beta sites; large effect size); CONP Clinical Leader = .26/.33 (alpha/beta sites) (small to moderate effect size); MMSS Control/Responsibility = .25/.09 (alpha/beta sites; small effect size)	$p \leq .05$

Note. CF = Casey–Fink Graduate Nurse Experience Survey; CONP = Gerber Control Over Nursing Practice Scale; Halfer–Graf = Halfer–Graf Job/Work Environment Nursing Satisfaction Survey; LEB = Leader Empowerment Behaviors Scale; MMSS = McCloskey–Mueller Satisfaction Scale; NSCQ = Nurses' Self-Concept Questionnaire; SLPI = Student Leadership Practices Inventory; Schutzenhofer = Schutzenhofer Professional Nursing Autonomy Scale; Schwirian = Schwirian Six-D Scale; ADN = associate degree in nursing; BSN = baccalaureate degree in nursing; UHC/AACN = University HealthSystem Consortium/American Association of Colleges of Nursing; N.R. = not reported.

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the Nurses' Self-Concept Questionnaire (Cleary et al., 2009). Using means and standard deviations of clinical leadership skill from baseline or first measure to postprogram or last measure, within-subject effect sizes were calculated for four studies, and effect sizes ranged from 0.09 to 1.29. Two of the four studies included three measures of clinical leadership skill, and one study included alpha and beta site testing results; therefore, 11 within-subject effect sizes were calculated for data within the four studies (see Table 3; Goode et al., 2009; Williams et al., 2007). All four of these studies reported findings from 1-year NGNTPs.

Comparison groups. Four studies evaluated change in self-reported clinical leadership skill from baseline to postprogram using repeated-measures or pre/posttest measures of convenience samples using comparison groups. However, no study included data that permitted calculation of effect sizes between groups. Only one study included data that permitted calculation of within-subjects effect size (Beecroft, Kunzman, & Krozek, 2001; see Table 3). The comparison group in three of the four studies was new graduate nurses who had completed orientation prior to implementation of the NGNTP (Beecroft et al., 2001; Blanzola, Lindeman, & King, 2004; Halfer, Graf, & Sullivan, 2008). The other study compared baccalaureate to associate degree nurses (Thomson, 2011). One study reported clinical leadership skill of a pilot group that had participated in a 6-month NGNTP as "equal to or greater than a comparison group of registered nurses with twice the clinical experience" (no statistical significance reported; Beecroft et al., 2001). One study reported that clinical leadership skill was greater for a pilot group that had participated in a 24-week NGNTP compared to new graduate nurses who completed orientation prior to the NGNTP as measured by peer evaluation ($p = .005$; Blanzola et al., 2004). Another reported a statistically significant increase in clinical leadership skill from baseline to postprogram for new graduates participating in a 1-year NGNTP as measured using the Halfer–Graf survey ($p < .0001$). However, there was a lack of data to permit between group comparisons of clinical leadership skill (Halfer et al., 2008). One study reported no statistically significant differences in clinical leadership skill between baccalaureate and associate degree nurses who participated in a 1-year NGNTP as measured on the Casey–Fink Communication and Leadership ($p = .6646$) and Control Over Nursing Practice Clinical Leadership domains ($p = .8051$). The study also reported that associate degree nurses had statistically higher clinical leadership skill than baccalaureate nurses on the McCloskey–Mueller Control and Responsibility domain ($p = .0249$; Thomson, 2011).

Program evaluation and case study. In two program evaluation studies, managers described new graduate nurses' increased clinical leadership skill by descriptions such as "pool of ready leaders" assuming preceptor and charge nurse roles quickly, improved quality of patient care, increased unit involvement, and selection for leadership roles more quickly when compared to new graduate nurses who had not participated in a similar program (Bratt, 2009; Varner & Leeds, 2012). Analysis of narratives described new graduate nurses exhibiting a growing sense of professionalism including the "practice of clinical leadership" (Turner & Goudreau, 2011). One study described new graduate nurses as not being ready for leadership content early in the transition process from academia into practice, but more receptive when content was moved to later in the NGNTP (Keller, Meekins, & Summers, 2006).

Pattern variation. In five studies, clinical leadership skill as measured using the Schwirian Scale, the Schutzenhofer Scale, the McCloskey–Mueller Control/Responsibility domain, and the Control Over Nursing Practice Clinical Leadership domain showed a pattern of higher scores at baseline, dipping at 6 months, then increasing, but not returning to baseline, at 12 months (Bartlett et al., 2000; Beecroft et al., 2001; Goode et al., 2009; Thomson, 2011; Williams et al., 2007). This pattern was present in diploma nurses, but not for baccalaureate nurses in the absence of an intervention (Bartlett et al., 2000), and for those participating in a new graduate transition program (Beecroft et al., 2001; Goode et al., 2009; Thomson, 2011; Williams et al., 2007). This pattern was present within the same sample as measured by some instruments and not by other instruments. This pattern variation suggests that there may be domains of clinical leadership skill where new graduate nurses perceive themselves to be initially strong, then that perception changes over time.

Additional findings

Academic preparation. Only two studies evaluated the relationship between academic preparation and clinical leadership skill (Bartlett et al., 2000; Thomson, 2011). One study found higher clinical leadership skill in diploma nurses when compared to baccalaureate nurses, in the absence of an intervention program over the first year of practice (Bartlett et al., 2000). The other study found no difference between baccalaureate and associate degree nurses participating in a 1-year NGNTP on two of three measures of clinical leadership skill and higher clinical leadership skill in associate degree nurses on the third measure (Thomson, 2011).

NGNTP length. There is lack of evidence to evaluate the relationship between NGNTP length and clinical leadership skill. All programs were from 22 to 52 weeks in length, and most (>80%) were 1 year in length.

Curriculum. The evidence suggests that there may be a relationship between clinical leadership skill and NGNTP

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curriculum. In single group designs, the largest within-subject effect sizes were shown in NGNTPs that used the UHC/AACN Nurse Residency Program curriculum and were 1 year in length (Goode et al., 2009; Williams et al., 2007). In the studies with comparison groups, there were sufficient data for only one within-subject effect size calculation. A large effect size was shown in one 6-month NGNTP using the Versant New Graduate RN Residency curriculum (Beecroft et al., 2001).

DISCUSSION

Study Design

Of the 16 studies that evaluated the relationship between NGNTPs and clinical leadership skill, eight used convenience samples in repeated-measures or pre/posttest design without a comparison group, and two used program evaluation data without a comparison group. Lack of a comparison group did not permit assessment of whether change would have occurred regardless of the intervention over the same time period. Six studies utilized convenience samples in repeated-measures or pre/posttest design or used program evaluation to compare outcomes of new graduate nurses who participated in an NGNTP with outcomes of new graduate nurses who completed orientation prior to implementation of the program. None of the studies using comparison groups included data that permitted statistical evaluation of change in clinical leadership skill between groups.

One study compared outcomes of associate and baccalaureate nurses within the same organization, using the same instruments and program curriculum and compared outcomes for each group using repeated measures from baseline to postprogram. This study permitted evaluation of both academic preparation, and the intervention of an NGNTP. However, there was insufficient data reported to calculate an effect size.

Using the evidence hierarchy outlined by Polit and Beck (2008), 14 studies in the inclusion groups were classified as Level IV evidence based on correlational or quasiexperimental designs using convenience samples and lack of randomization. Three studies in the inclusion group were classified as Level VI evidence based on single descriptive or qualitative study designs. Studies were also limited by heavy reliance on self-report measures of clinical leadership skill, although three studies did corroborate self-report with peer and manager evaluation.

Outcomes

Although clinical leadership skill may increase over the first year of practice in the absence of an intervention, participation in an NGNTP that is at least 24 weeks in length significantly increased clinical leadership skill in new graduate nurses, when compared to new graduate nurses who had not participated in a similar program. NGNTPs also benefited all new graduate nurses, regardless of academic preparation.

The UHC/AACN Nurse Residency curriculum in 1-year NGNTPs has the greatest impact on clinical leadership skill based on large (0.09–1.29) within-subject effect sizes using pre/posttest measures from baseline to postprogram (Goode et al., 2009; Williams et al., 2007). Also, NGNTPs using curriculum developed by the Versant New Graduate RN Residency and by one organization showed moderate to large effect sizes (Beecroft et al., 2001; Roud et al., 2005). When comparing the effect sizes across curriculums, it is important to note that the Versant New Graduate RN Residency program was 6 months in length and the UHC/AACN Nurse Residency program and the organization program were each 1 year in length. In addition, the 1-year NGNTP that used curriculum developed by the organization collected data at 7 weeks and 7 months (as opposed to baseline and postprogram), which significantly shortened the 1-year intervention (Roud et al., 2005). To evaluate change in clinical leadership skill at 6 months for all four studies (Beecroft et al., 2001; Goode et al., 2009; Roud et al., 2005; Williams et al., 2007), we calculated effect sizes using data from baseline and 6 months. On the basis of means and standard deviations reported at 6 months, within-subject effect sizes for the Casey–Fink Communication and Leadership domain were 0.43–0.84, the Control Over Nursing Practice Clinical Leader domain were 0.01–0.04, and the McCloskey–Mueller Control/Responsibility domain were 0.27–0.31 (Goode et al., 2009; Williams et al., 2007). This compares to the 0.58 within-subject effect size for the NGNTP using the Versant New Graduate RN Residency curriculum as measured by the Schutzenhofer Scale (Beecroft et al., 2001) and to the 0.57 effect size in another study that used an organization-developed curriculum (Roud et al., 2005). True comparison of effect size between studies is difficult, because multiple factors may impact change in clinical leadership skill, such as characteristics of the organization, different curriculums, additional support systems, or strategies provided by the organization, and use of different instruments to measure clinical leadership skill. It is also important to note that, in general, self-report scores of new graduate nurses were corroborated by peers and managers indicating that new graduate nurses were realistic in assessing their own abilities and that self-report may be a reasonable, accurate, and efficient method for collecting data on clinical leadership skill.

In summary, this systematic review suggests that NGNTPs ≥24 weeks in length have a positive impact on new graduate nurses' clinical leadership skill and benefit all new graduate nurses, regardless of their academic preparation. New graduate nurses participating in NGNTPs using curriculum developed by the UHC/AACN Nurse Residency program have the greatest improvement in clinical leadership skill from baseline to 6 and 12 months.

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LIMITATIONS

This review has several limitations. There were no published studies reporting outcomes for NGNTPs less than 22 weeks in length, thereby limiting evaluation of the impact of length of NGNTPs on clinical leadership skill. It is possible that the terms used in the search failed to identify NGNTPs that were less than 22 weeks. It is also possible that there is lack of published research related to "orientation" programs as compared to residency programs. There was lack of detail in published studies related to NGNTP curriculum, which limited the ability to assess characteristics that might impact clinical leadership skill. There was also lack of detail regarding characteristics of the organizations that provided the NGNTPs, and these characteristics might impact clinical leadership skill. Few studies evaluated outcomes based on academic preparation of new graduate nurses; thus, it is difficult to determine if NGNTPs impacted clinical leadership skill differently for nurses with different types of degrees.

This review was further limited by weaknesses in study designs. There were no studies using randomized controlled trials or comparative effectiveness designs. Only four studies had a comparison group, and three of the four studies used a historical control group. Peer and supervisor feedback, while valuable, may be biased because of lack of blinding of peers and supervisors to the study aims and interventions.

IMPLICATIONS FOR NURSING PROFESSIONAL DEVELOPMENT SPECIALISTS

This study has important findings for Nursing Professional Development Specialists. Outcomes from this review support NGNTPs that are at least 6 months in length for all new graduate nurses, regardless of academic preparation. NGNTP curriculum does appear to have a relationship with development of clinical leadership skill over the first year of practice of a new graduate nurse; therefore, characteristics of high-quality curriculum should be assessed. Pattern variation in clinical leadership skill was shown in several studies implying that self-reported perception of clinical leadership skill by new graduate nurses may change over time. Nursing professional development specialists need to understand expected variation and provide support strategies for new graduate nurses over this transition period.

RECOMMENDATIONS FOR FUTURE RESEARCH

Recommendations for future research include improving study design rigor, evaluating outcomes of different NGNTP durations and curriculums, and identifying characteristics of new graduate nurses who might benefit most from various NGNTP durations and curriculums. Furthermore, future research should evaluate the impact of NGNTPs on quality and cost of care.

REFERENCES

Aiken, L. H., Cimiotti, J. P., Sloane, D. M., Smith, H. L., & Neff, D. F. (2011). Effects of nurse staffing and nurse education on patient deaths in hospitals with different nurse work environments. *Medical Care*, *49*(12), 1047–1053.

Bartlett, H. P., Simonite, V., Westcott, E., & Taylor, H. R. (2000). A comparison of the nursing competence of graduates and diplomates from UK nursing programmes. *Journal of Clinical Nursing*, *9*, 369–381.

Baxter, P. E. (2010). Providing orientation programs to new graduate nurses: Points to consider. *Journal for Nurses in Staff Development*, *26*(4), E12–E17.

Beecroft, P. C., Dorey, F., & Wenton, M. (2007). Turnover intention in new graduate nurses: A multivariate analysis. *Journal of Advanced Nursing*, *62*(1), 41–52.

Beecroft, P. C., Kunzman, L., & Krozek, C. (2001). RN internship: Outcomes of a one-year pilot program. *The Journal of Nursing Administration*, *31*(12), 575–582.

Berkow, S., Virkstis, K., Stewart, J., & Conway, L. (2008). Assessing new graduate nurse performance. *The Journal of Nursing Administration*, *38*(11), 468–474.

Blanzola, C., Lindeman, R., & King, M. L. (2004). Nurse internship pathway to clinical comfort, confidence and competency. *Journal for Nurses in Staff Development*, *20*(1), 27–37.

Bratt, M. M. (2009). Retaining the next generation of nurses: The Wisconsin nurse residency program provides a continuum of support. *The Journal of Continuing Education in Nursing*, *40*(9), 416–425.

Cleary, M., Matheson, S., & Happell, B. (2009). Evaluation of a transition to practice programme for mental health nursing. *Journal of Advanced Nursing*, *65*(4), 844–850.

Halfer, D., Graf, E., & Sullivan, C. (2008). The organizational impact of a new graduate pediatric nurse mentoring program. *Nursing Economics*, *26*(4), 243–249.

Hatler, C., Stoffers, P., Kelly, L., Redding, K., & Carr, L. L. (2011). Work unit transformation to welcome new graduate nurses: Using nurses' wisdom. *Nursing Economics*, *29*(2), 88–93.

Goode, C. J., Lynn, M. R., Krsek, C., & Bednash, G. D. (2009). Nurse residency programs: An essential requirement for nursing. *Nursing Economics*, *27*(3), 142–159.

Institute of Medicine. (2011). *The future of nursing: Leading change, advancing health*. Washington, DC: The National Academies Press.

Keller, J. S., Meekins, K., & Summers, B. L. (2006). Pearls and pitfalls of a new graduate academic residency program. *The Journal of Nursing Administration*, *36*(12), 589–598.

Kowalski, S., & Cross, C. L. (2010). Preliminary outcomes of a local residency programme for new graduate registered nurses. *Journal of Nursing Management*, *18*, 96–104.

Kutney-Lee, A., Lake, E. T., & Aiken, L. H. (2009). Development of the hospital nurse surveillance capacity profile. *Research in Nursing & Health*, *32*(2), 217–228.

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *Annals of Internal Medicine*, *151*(4), 264–269.

Olson-Sitki, K., Wendler, M. C., & Forbes, G. (2012). Evaluating the impact of a nurse residency program for newly graduated registered nurses. *Journal for Nurses in Staff Development*, *28*(4), 156–162.

Patrick, A., Laschinger, H. K., Wong, C., & Finegan, J. (2011). Developing and testing a new measure of staff nurse clinical leadership: the

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clinical leadership survey. *Journal of Nursing Management*, *19*, 449–460.
Polit, D. F., & Beck, C. T. (2008). *Nursing research: Generating and assessing evidence for nursing practice*. Philadelphia, PA: Lippincott Williams, & Wilkins.
Roud, D., Giddings, L. S., & Koziol-McLain, J. (2005). A longitudinal survey of nurses' self-reported performance during an entry to practice programme. *Nursing Praxis in New Zealand*, *21*(2), 37–46.
Thomson, S. (2011). Transition into practice: A comparison of outcomes between associate- and baccalaureate-prepared nurses participating in a nurse residency program. *Journal for Nurses in Staff Development*, *27*(6), 266–271.
Turner, N., & Goudreau, J. (2011). From student to emergency nurse. *Journal for Nurses in Staff Development*, *27*(5), 210–215.
Varner, K. D., & Leeds, R. A. (2012). Transition within a graduate nurse residency program. *The Journal of Continuing Education in Nursing*, *43*(11), 491–499.
Williams, C. A., Goode, C. J., Krsek, C., Bednash, G. D., & Lynn, M. R. (2007). Postbaccalaureate nurse residency 1 year outcomes. *The Journal of Nursing Administration*, *37*(7/8), 357–365.

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