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The quality of orientation for newly hired nurses in acute care settings in a university hospital: A cross-sectional study

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ABSTRACT

Aims: This study aims to describe how newly hired nurses assess the quality of the orientation in acute care settings in a university hospital.
Background: Orientation for newly hired nurses in acute care settings, where special competence, ability to collaborate with different professional groups, and wide technical and technological skills are required, is crucial to ensure patient safety and high-quality standards in nursing care.
Methods: A cross-sectional study design was applied. Strengthening the Reporting of Observational studies in Epidemiology (STROBE) guidelines were followed. A convenience sample consisted of nurses (N = 120) from nine operating rooms and four intensive care units. The participants were newly hired (for one year). The data was collected via an online questionnaire including three parts: 1) socio-demographic and orientation-related items; 2) the Comprehensive Orientation Process Evaluation (OPE-instrument© Peltokoski, 2016); and 3) an adopted version of the Clinical Learning Environment, Supervision and Nurse Teacher Scale (CLES+ T Scale© Saarikoski et al., 2008). Descriptive and bivariate statistical analyses were used.
Results: 66 newly hired nurses answered the survey; the response rate was 44 %. The comprehensive orientation process was assessed as follows: goals and responsibilities, and standardized content of the comprehensive orientation process (mean 3.98), implementation of the comprehensive orientation process (mean 3.95), and evaluation of the comprehensive orientation process (mean 3.31). The quality of the clinical learning environment and supervision was assessed as follows: premises of learning on the ward (mean 4.04), supervisory relationship (mean 4.04), atmosphere on the ward (mean 3.77), and premises of nursing care on the ward (mean 3.65). Setting and achieving learning goals and professional growth supporting orientation were most often statistically significantly associated with a comprehensive orientation process and a clinical learning environment and supervision.
Conclusion: Although newly hired nurses assessed the quality of the orientation at an appropriate level, evaluation should be systematically performed at different checkpoints of the orientation process. Learning goals should be set individually, and their achievement monitored to confirm the quality of the orientation.

1. Introduction

Orientation for newly hired nurses (NHNs) in acute care settings is crucial to ensure patient safety and meet high-quality standards in nursing care. Orientation is a complex phenomenon that unfolds as a process during which newly hired nurses are provided with orientation to their work tasks and work environment (Peltokoski, 2016). In addition, socialization of the work community is important during orientation (Phillips et al., 2015) and support for this is needed (Zheng et al., 2023). After the orientation period, it is possible to support professional

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growth with mentorship (Pasila et al., 2017). In Finland, orientation is the employer's responsibility and is supported by legislation. (Occupational Safety and Health Act 738/2002; Employment Contracts Act 55/2001).

In acute care settings, such as operating departments and intensive care units, special competence, the ability to collaborate with different professional groups, and a wide array of technical and technological skills are required (Alastalo et al., 2017, DeGrande et al., 2018, Gillespie & Hamlin, 2009, Gillespie et al., 2012, Jeon et al., 2017, Jeon et al., 2020, Lakanmaa et al., 2015, Tengvall, 2010). To cope with the diverse demands, NHNs need intensive and effective unit-level orientation despite their earlier work experience (Tengvall, 2010), and especially when a new graduate is involved (Pasila et al., 2017; Rush et al., 2019).

Although orientation for NHNs is a common phenomenon in health care organizations, the research related to it is scant (Peltokoski et al., 2016). Research has focused mainly on the framework of orientation programs, their implementation, and results as well as program components, impact and duration (e.g., Bérubé et al., 2012; Ernawaty et al., 2024; Pfander & Breznau, 2018; Rush et al., 2019; Van Camp & Chappy, 2017). In addition, perceptions and experiences regarding orientation have been studied, mainly from the perspectives of new graduates (e.g., Pasila et al., 2017; Zheng et al., 2023) and preceptors (Muir et al., 2013). How NHNs perceive the quality of the orientation in acute care settings has been of less interest.

Nurses in this study are comprised of Registered Nurses (RNs) and Licensed Practical Nurses (LPNs). A NHN refers to nurses who had worked in their position for no more than one year. In this study, the orientation period consisted of general orientation to the organization followed by a unit-level orientation, but it did not involve a separate transition program (see e.g., Ernawaty et al., 2024, Lalithabai et al., 2021, Rush et al., 2019). The unit-level orientation period in acute care settings is usually finished within one year from recruitment. The length of the orientation period is due to the lack of specialization to perioperative and/or intensive care nursing in Finland. Orientation involves preceptors who train and support the preceptees. Acute care settings consist of operating rooms (ORs), including post- anesthesia care units (PACUs) and intensive care units (ICUs).

2. Background

A fluent, ongoing orientation process has the potential to enhance the hospital's attractiveness (Peltokoski et al., 2015) and engage new employees to its organization, unit, and work community, and thus prevent intentions to leave among nursing professionals (Peltokoski, 2016). Missen, McKenna, & Beauchamp, 2016 concluded that supportive transition programs are related to positive job satisfaction, increased confidence, and higher retention rates among newly graduated nurses. Their findings indicate that providing educational and clinical guidance to nursing graduates via transition programs may decrease turnover (Missen, McKenna, & Beauchamp, 2016). Also, Brook et al. (2019) stated that orientation programs are successful interventions that reduce turnover and increase retention of early career nurses. In a review by Ernawaty et al. (2024), they identified several impacts of orientation, in addition to the above, enhancing the competency, knowledge, and satisfaction while also reducing stress. However, attention also needs to be focused on transitioning experienced nurses (Windey & McGuire, 2020) because programs designed for them have shown increased confidence related to responsibilities in their new role. (Montgomery et al., 2020).

Preceptors are crucial actors involved in the orientation process (Rush et al., 2019), including supervision of newly hired nurses. The need for preceptor training and education has been identified (Condrey, 2015; Kennedy, 2019; Martínez-Linares et al., 2019). The preceptors need to be prepared to use evidence-based strategies to support clinical reasoning skills for newly hired nursing staff, especially for new graduates (Powers et al., 2019), as well as provide psychosocial support (Quek & Shorey, 2018). The training and education could be organized in different ways, such as by multiple training courses (Chang et al., 2015) or web-based training (Wu et al., 2020, 2022). In demanding nursing environments, such as perioperative and critical care settings, nurse preceptors are a significant resource in orientation, especially for new graduates (Pfander & Breznau, 2018, Innes & Calleja, 2018). In general, the preceptors view their role positively and perceive to have a beneficial impact on the preceptee and the organization as well as to their own professional development (Muir et al., 2013).

The orientation process and quality require leadership. Gellerstedt et al. (2018) have highlighted the importance of having an accessible and multiskilled nurse manager to support the preceptees during the orientation period. The nurse manager has an opportunity to facilitate newly graduated nurses to become independent and achieve their goals (Gellerstedt et al., 2018). Supportive leadership has been identified as an element that enhanced orientation success. Nurse managers create opportunities for preceptors to implement the best orientation possible by ensuring sufficient resources (Lindfors et al., 2018.). They play a key role in creating competent preceptorship (Quek et al., 2019). To facilitate competence development and culture of trust, nurse managers need to build infrastructures that support the spirit of knowledge management (Kaldal et al., 2024; Lunden et al., 2017). Nurse managers need knowledge from the quality of orientation process to apply human recourse development strategies. The knowledge is also needed to improve orientation in clinical practice. (Peltokoski et al., 2016.)

3. Aim of the study

The aim of this study was to describe how NHNs assess the quality of the orientation in acute care settings in a university hospital. The goal was to produce knowledge that could be used when developing interventions for the orientation of NHNs as well as evaluating the effectiveness of these interventions. In addition, the knowledge produced may help nurse managers to facilitate the development of nursing competence and knowledge management. Research questions were as follows:

1. How do NHNs assess the comprehensive orientation process?
2. How are socio-demographic and orientation-related factors associated with the assessments regarding the comprehensive orientation process?
3. How do NHNs assess the quality of the clinical learning environment and supervision?
4. How are socio-demographic and orientation-related factors associated with the assessments regarding the clinical learning environment and supervision?

4. Materials and methods

4.1. Design

This quantitative study employed a cross-sectional design. The recommendations of the STROBE guidelines (Von Elm et al., 2007) were followed to enhance the transparency and completeness of the reporting.

4.2. Study setting and participants

This study was carried out in one university hospital in Finland. A convenience sample consisted of the registered nurses (RNs) and licensed practical nurses (LPNs) (N = 120) who were recruited either to operating rooms (ORs) (N = 9) or intensive care units (ICUs) (N = 4), illustrating the acute care settings, during the previous 12 months from February 2018 to February 2019. Thus, the inclusion criteria included up to one year of experience working in ORs or ICUs. The exclusion criteria were working in an environment other than an operating room

or intensive care unit, in addition to having more than one year's work experience.

4.3. Data collection

The one-month data collection via an online questionnaire using Questback Essentials® software took place in summer 2019. The link to the questionnaire was sent to the nurse managers of ORs and ICUs, and they forwarded the link to eligible respondents in their area ensuring that the inclusion and exclusion criteria were met on the recruitment process. Two reminders were sent using the same process after the initial invitation to increase the response activity. In addition, the study was advertised in internal Hospital newsletters.

The online questionnaire consisted of three parts:

1. Socio-demographic and orientation-related items (i.e., age, education, previous work experience, setting and achieving learning goals during the orientation) (10 items).
2. The Comprehensive Orientation Process Evaluation (OPE-instrument© Peltokoski, 2016) consisting of 27 items. The OPE-instrument© has been developed for hospital organizations to evaluate the comprehensive orientation process and is composed of four subscales: goals and responsibilities (7 items), standardized content (6 items), implementation (8 items), and evaluation (6 items). The instrument uses a five-point Likert scale (1 = not at all to 5 = very well) (Peltokoski et al., 2015, Peltokoski, 2016). In a study by Peltokoski (2016), Cronbach's alpha values varied between 0.84 and 0.90. In this study, Cronbach's alpha values were from 0.81 to 0.88.
3. The adopted version of the Clinical Learning Environment, Supervision and Nurse Teacher Scale (CLES+T Scale© Saarikoski et al., 2008). We used the adopted CLES+T Scale© which has also been used for national benchmarking purposes in Finland (Meretoja et al., 2018) but omitted the T-subscale that measures the role of the teacher. The scale used in this study consists of four sub-dimensions: Atmosphere on the ward (7 items), premises of learning on the ward (7 items), premises of nursing care on the ward (4 items), and supervisory relationship (8 items). The scale also uses a five-point Likert scale (1 = do not agree to 5 = totally agree). Originally, the CLES Scale© was designed to evaluate student nurses' perceptions of the quality of the clinical learning environment (Saarikoski, 2002) and its reliability has been previously tested, for example, in a study by Pitkänen et al. (2018), where Cronbach's alpha values ranged from 0.78 to 0.97. In this study, we used the adopted CLES Scale© in the context of NHNs instead of student nurses, and Cronbach's alpha values for the CLES-instrument© were from 0.76 to 0.94.

4.4. Data analysis

The data were analysed with the Statistical Package for Social Sciences for Windows, version 25.0 (SPSS, IBM Corp., Armonk, NY, USA). Appropriate statistical analyses were selected for the study design and data type, in alignment with STROBE guidelines.

First, descriptive statistics (including frequencies, means, percentages, and standard deviations) were used to describe the data. Second, the association between socio-demographic and orientation-related factors with the evaluations regarding comprehensive orientation process and clinical learning environment and supervision were analysed with Mann-Whitney *U* test and Kruskal-Wallis test. These nonparametric tests were used since the data was not normally distributed. p-values 0.05 or below were considered as statistically significant, and a Bonferroni correction was applied when a statistically significant association was found. Before analysis, some socio-demographic and orientation-related items were recategorized. Participants' age was grouped as <30 years and 30 years and over, and their previous work experience was divided into two groups: yes (from OR or ICU) or no. The items "Achieving learning goals during orientation period" and "Orientation supported professional growth" were grouped as positively (very well, quite well) and not positively (moderately, not quite well, not very well). Lastly, internal consistency of instruments was analysed and reported as Cronbach alpha values.

5. Ethical considerations

The study was conducted following the guidelines of the Finnish Advisory Board on Research Integrity nominated as responsible conduct of research and procedures for handling allegations of misconduct in Finland (2019).

Permission to use the OPE-instrument© (Peltokoski, 2016) and the CLES+T Scale© (Saarikoski et al., 2008) was obtained from the copyright owners before use. Minor modifications, in terms of terminology in the CLES Scale © (Saarikoski et al., 2008), were made with permission of the copyright owner.

Permission to conduct the study was applied from the study organization before data collection. According to Finnish law, this type of research does not require approval from an official research ethics committee because sensitive, potentially harmful information about participants was not collected. Anonymity and confidentiality were protected by giving numerical codes for each participant, and all personal data and information that might identify participants were removed (Medical Research Act 488/1999; Finnish Advisory Board on Research Integrity, 2019).

All respondents were briefed about the study in general as well as data collection, handling, and alienating. They were told that participating in this study was voluntary and anonymous. The right to interrupt the participation in the study at any time without any reason or consequences was highlighted. An informed consent was interpreted to be obtained when nurses confirmed their participation in the study in the online form. After that, participants could proceed to answer the survey questions (European Union, 2016).

6. Results

6.1. Socio-demographic factors

Altogether, 66 NHNs took part in the survey, so the response rate was 44 %. Most of the respondents worked in ORs (n = 49, 74.2 %) and were RNs (n = 63, 95.5 %). The majority of respondents (n = 34, 51.5 %) were 25–29 years old. Over half of the respondents (n = 39, 59.1 %) had no previous education besides a nursing degree. However, about 40 % had earlier vocational education and training. The majority of those were LPNs, but some, for example, were beauticians, media assistants, massage therapists, artisans, engineers, security guards, cooks, and masters of rehabilitation. Most of the respondents (n = 38, 57.6 %) had no previous work experience in ORs or ICUs, but 24.2 % of the NHNs (n = 16) had earlier experience in perioperative nursing, and 18.2 % (n = 12) in intensive care nursing, respectively. See Table 1 for more details.

6.2. Orientation-related background factors

A third of the respondents (n = 22, 33.3 %) reported that they had mutual conversations concerning their orientation with their preceptor/preceptors three times or more during the orientation period. Over half of the respondents (n = 38, 57.6 %) reported that learning goals had been set up for their orientation period, and most of those (n = 17, 43.6 %) evaluated that the learning goals had been achieved quite well. Nearly half of the respondents (n = 32, 48.5 %) reported that the orientation had supported their professional growth quite well. See Table 2 for more details.

6.3. NHNs' assessments of the comprehensive orientation process

The comprehensive orientation process was assessed with the OPE-

Table 1
Respondents' socio-demographic factors (N = 66).

	n	%
Work environment		
OR (incl. PACU)	49	74.2
ICU	17	25.8
Other	0	0
Missing data	–	–
Education/job title		
Registered Nurse	63	95.5
Licensed Practical Nurse	1	1.5
Missing data	2	3
Age		
<20 years	0	0
20–24 years	7	10.6
25–29 years	34	51.5
30–34 years	10	15.2
35–39 years	5	7.6
>40 years	10	15.2
Missing data	–	–
Earlier education besides nursing degree		
Yes	26	39.4
No	39	59.1
Missing data	1	1.5
Previous work experience		
Yes, from OR	16	24.2
Yes, from ICU	12	18.2
None	38	57.6
Missing data	–	

OR = Operating room.
PACU = Post-anesthesia care unit.
ICU = Intensive care unit.

Table 2
Orientation related background factors (N = 66).

	n	%
Mutual conversations concerning orientation with the preceptor/preceptors		
a) three times or more during the orientation period	22	33.3
b) two times during the orientation period	11	16.7
c) once during the orientation period	17	25.8
d) not at all during the orientation period	15	22.7
Missing data	1	1.5
Learning goals set up for the orientation period		
a) yes	38	57,6
b) no	28	42,4
Missing data	–	–
The set learning goals achieved during the orientation period		
a) very well	12	30.8
b) quite well	17	43.6
c) moderately	8	20.5
d) not quite well	2	5.1
e) not very well	–	–
Missing data	27	40.9
Orientation supported the respondent's professional growth during his/her orientation period		
a) very well	22	33.3
b) quite well	32	48.5
c) moderately	9	13.6
d) not quite well	2	3.0
e) not very well	1	1.5
Missing data	–	–

instrument© consisting of four sum variables of the orientation process on a five-point Likert scale where 1 = not at all, 5 = very well. The mean values and standard deviations of the sum variables together with Cronbach alpha values are presented in Table 3 for more details.

Goals and responsibilities (mean 3.98, SD 0.68) and *standardized content of the comprehensive orientation process* (mean 3.98, SD 0.60) were assessed by NHNs as highest. *Implementation* of the comprehensive orientation process was nearly as good (mean 3.95, SD 0.71), whereas *evaluation* of the comprehensive orientation process received the lowest rating from NHNs (mean 3.31, SD 1.0).

When examining the item-level of the OPE-instrument©, the highest values were achieved for items concerning the fact that orientation began at the beginning of the employment (mean 4.81, SD 0.64) and the NHNs were responsible for proceeding with orientation (mean 4.48, SD 0.83). The work unit and its policies became familiar during the orientation phase (mean 4.27, SD 0.70). The orientation strengthened the commitment for their tasks (mean 4.24, SD 0.83) and made the nurses ready to complete those tasks (mean 4.21, SD 0.84).

The lowest rates the OPE-instrument© received were on items concerning the evaluation of newly hired employees' earlier competence before orientation (mean 2.56, SD 1.27). The feedback from nurse managers concerning the progress of orientation was regarded as scant (mean 2.92, SD 1.44), and the responsibilities around orientation were poorly described (mean 3.16, SD 0.95). The orientation (mean 3.22, SD 1.12) and evaluation of its progress (mean 3.33, SD 1.08) was not regarded as very systematic.

6.4. Associations between socio-demographic and orientation-related factors and assessments of the comprehensive orientation process

Goals and responsibilities, as well as standardized content, were assessed as statistically significantly better when learning goals were set ($p = 0.001$, $p = 0.013$, respectively), when learning goals were achieved positively ($p < 0.001$, $p = 0.009$, respectively), and when NHNs reported that orientation had supported their professional growth positively ($p < 0.001$, $p = 0.004$, respectively). See Table 4 for more detail.

Implementation, as well as evaluation, were assessed as statistically significantly better when learning goals were set ($p < 0.001$, $p < 0.001$, respectively). Moreover, implementation was assessed significantly better when learning goals were achieved positively ($p = 0.007$). Furthermore, NHNs reported that orientation had supported their professional growth positively ($p < 0.001$, $p = 0.001$, respectively). Those who were from the ORs rated the evaluation significantly better than those from ICUs ($p = 0.020$). Lastly, mutual conversations concerning orientation with the preceptor(s) were statistically significantly

Table 3
NHNs' evaluations of the comprehensive orientation process and clinical learning environment and supervision (N = 66).

	n	Missing data	Mean	Std. Deviation	Cronbach's alpha
OPE-instrument©					
Goals and responsibilities	63	3	3.98	0.67	0.845
Standardized content	66	–	3.98	0.60	0.813
Implementation	64	2	3.95	0.71	0.834
Evaluation	66	–	3.31	1.0	0.875
CLES Scale©					
Atmosphere on the ward	66	–	3.77	0.75	0.889
Premises of nursing care on the ward	66	–	3.65	0.69	0.768
Premises of learning on the ward	64	2	4.04	0.60	0.805
Supervisory relationship	63	3	4.02	0.83	0.941

Table 4
Associations between socio-demographic and orientation-related factors and evaluations of comprehensive orientation process and clinical learning environment and supervision (N = 66).

	Comprehensive orientation process (OPE-instrument©)								Clinical learning environment and supervision (adopted CLES- Scale©)							
	Goals and responsibilities		Standardized content		Implementation		Evaluation		Atmosphere on the ward		Premises of nursing care on the ward		Premises of learning on the ward		Supervisory relationship	
	mean	*p-value*	*mean*	*p-value*	*mean*	*p-value*	*mean*	*p-value*	*mean*	*p-value*	*mean*	*p-value*	*mean*	*p-value*	*mean*	*p-value*
Work environment		0.840		0.590		0.371		**0.020****		0.339		0.768		0.079		0.551
OR (incl. PACU) (n = 49)	3.976		3.979		3.981		3.493		3.819		3.648		4.133		4.066	
ICU (n = 17)	3.981		3.970		3.835		2.784		3.630		3.647		3.758		3.875	
Age		0.704		0.469		0.275		0.843		0.474		0.328		0.316		0.163
<30 years (n = 41)	3.957		3.927		3.856		3.289		3.721		3.567		3.982		3.931	
30 and over years (n = 25)	4.012		4.060		4.094		3.347		3.851		3.780		4.137		4.185	
Previous education		0.796		0.071		0.137		0.682		0.081		0.058		**0.039****		0.238
Yes (n = 25)	4.000		4.154		4.095		3.410		3.973		3.856		4.246		4.178	
No (n = 39)	3.965		3.863		3.852		3.248		3.641		3.519		3.902		3.899	
Previous work experience		0.709		0.192		0.773		0.119		0.515		0.906		0.644		0.910
Yes (n = 28)	4.006		4.060		3.909		3.090		3.693		3.679		3.980		3.950	
No (n = 38)	3.959		3.917		3.970		3.474		3.827		3.625		4.087		4.072	
Mutual conversations concerning orientation with the preceptor(s)		0.179		0.281		**0.027***		**0.025***		0.525		0.618		0.067		**0.001***
Three times or more during the orientation period (n = 22)	4.231		4.022		4.279		3.750		3.922		3.750		4.292		4.494	
Two times during the orientation period (n = 11)	3.974		4.242		3.977		3.409		3.792		3.795		4.116		3.912	
Once during the orientation period (n = 17)	3.789		3.862		3.772		3.029		3.537		3.426		3.949		3.867	
Not at all during the orientation period (n = 15)	3.769		3.800		3.571		2.800		3.723		3.616		3.704		3.473	
Learning goals were set for orientation period		**0.001****		**0.013****		**0.000****		**0.000****		**0.017****		**0.050****		**0.007***		**0.002****
Yes (n = 38)	4.232		4.127		4.236		3.733		3.944		3.803		4.230		4.324	
No (n = 28)	3.614		3.774		3.571		2.738		3.536		3.438		3.796		3.596	
Achieving learning goals during orientation period		**0.000****		**0.009****		**0.007****		0.258		**0.028****		**0.016****		**0.004****		**0.024****
Positively (n = 29)	4.424		4.259		4.366		3.791		4.079		3.966		4.360		4.397	
Not positively (n = 10)	3.529		3.700		3.838		3.450		3.471		3.325		3.843		4.000	
Orientation supported professional growth		**0.000****		**0.004****		**0.000****		**0.001****		**0.024****		**0.000****		**0.000****		**0.000****
Positively (n = 54)	4.154		4.096		4.118		3.515		3.865		3.792		4.209		4.201	
Not positively (n = 12)	3.043		3.444		3.198		2.389		3.345		3.000		3.310		3.088	

Note: * = Kruskal-Wallis test, ** = Mann-Whitney U test.

associated with implementation and evaluation (p = 0.027, p = 0.025, respectively). See Table 4 for more detail.

6.5. NHNs' assessments of the clinical learning environment and supervision

The quality of the clinical learning environment and supervision was assessed with the adopted CLES+T Scale© (Meretoja et al., 2018; Saarikoski et al., 2008), consisting of four sum variables on a five-point Likert scale where 1 = do not agree, 5 = totally agree. The mean values and standard deviations of the sum variables together with Cronbach alpha values are presented in Table 3.

Premises of learning on the ward and supervisory relationship were assessed by NHNs as highest (mean 4.04 and 4.02, SD 0.60 and 0.83, respectively). Atmosphere on the ward was nearly as good (mean 3.77, SD 0.75), and premises of nursing care on the ward was lowest (mean 3.65, SD 0.69).

Examining the individual items, the highest assessments the CLES Scale© received were on items where NHNs were called by their own names (mean 4.55, SD 0.61), the preceptors had positive attitudes towards orientation (mean 4.3, SD 0.86), situations related to nursing care were included in orientation (mean 4.28, SD 0.73), learning situations were diverse in content (mean 4.27, SD 0.74), and respect and endorsement were present in the supervisory relationship (mean 4.22, SD 0.89).

The lowest ratings related to the quality of orientation were the support from nurse managers (mean 3.15, SD 1.21), the smooth flow of information related to nursing care and service (mean 3.32, SD 0.90), the interest of the whole nursing staff in orientation (mean 3.45, SD 1.00), well-performed orientation at the unit level (mean 3.55, SD 1.10), and regular feedback from preceptors (mean 3.56, SD 1.11).

6.6. Associations between socio-demographic and orientation-related factors and assessments of clinical learning environment and supervision

Atmosphere on the ward, premises of nursing care on the ward, premises of learning on the ward, and supervisory relationship were all assessed statistically significantly better when learning goals were set (p = 0.017, p = 0.050, p = 0.007, p = 0.002, respectively) and achieved positively (p = 0.028, p = 0.016, p = 0.004, p = 0.024, respectively). Moreover, the results were similar when NHNs reported that orientation had supported their professional growth positively (p = 0.024, p < 0.001, p < 0.001, p < 0.001, p < 0.001, p < 0.001 respectively). See Table 4 for more detail.

Those with previous education rated premises of learning on the ward significantly better than those with no previous education (p = 0.039). Lastly, mutual conversations concerning orientation with the preceptor(s) was statistically significantly associated with supervisory relationship (p = 0.001). See Table 4 for more detail.

7. Discussion

7.1. Discussion of the results

This study aimed to describe how NHNs assessed the quality of the orientation in acute care settings in a university hospital. NHNs rated the comprehensive orientation process and clinical learning environment and supervision as good. From socio-demographic and orientation-related factors, setting and achieving learning goals, as well as professional growth supporting orientation, were most often statistically significantly associated with comprehensive orientation process and clinical learning environment and supervision.

7.1.1. The comprehensive orientation process and its associations between socio-demographic and orientation-related factors

This study increases the knowledge around the complex phenomenon of orientation, which has focused mainly on frameworks of orientation programs, their implementations, and results as well as program components, impact and duration (e.g., Bérubé et al., 2012; Ernawaty et al., 2024; Pfander & Breznau, 2018; Rush et al., 2019; Van Camp & Chappy, 2017). The comprehensive orientation process was assessed quite equally, except evaluation. Earlier, Peltokoski (2016) reported similar results, so evaluation of the orientation process should be enhanced to meet the standards of comprehensiveness.

Of particular importance is the starting point of the orientation. During the orientation process, the work unit and its policies become familiar for HNH. The socialization to the work community during orientation have been highlighted earlier (Phillips et al., 2015) and the need for supporting NHNs has been recognized (Zheng et al., 2023). In this study, the NHNs felt they are themselves responsible for their own orientation, and their commitment to those tasks increases their readiness for nursing care. This is particularly important in ORs and ICUs where advanced clinical competence is needed (Alastalo et al., 2017, DeGrande et al., 2018, Gillespie & Hamlin, 2009, Gillespie et al., 2012, Jeon et al. 2017; Jeon et al., 2020, Lakanmaa et al., 2015, Tengvall, 2010).

According to our results, NHNs' earlier competence should be noted. Windey and McGuire (2020) have stated the importance of focusing on transitioning experienced nurses to help them embrace their new role (Montgomery et al., 2020). The support after the orientation period to promote professional growth has been noted by Pasila et al. (2017).

The results of this study showed that the feedback from nurse managers concerning the progress of orientation was regarded as scant. Earlier, Gellerstedt et al. (2018) highlighted the nurse managers' opportunities to support NHNs during the orientation period. In addition, nurse managers are in a key role to build an environment where competence development and building trust is possible (Kaldal et al., 2024; Lunden et al., 2017).

Some background factors need to be discussed. First, setting learning goals for the orientation period seems to be a crucial factor for a successful orientation process. A noteworthy finding is also the fact that the more positive the experience of reaching the learning goals was, the more positively the orientation process was evaluated. Orientation is intended to enhance the competence of NHNs (Lalithabai et al., 2021), so these findings should be taken into consideration.

Second, regular, mutual, supervisory conversations between the preceptor and preceptee seem to be important with respect to implementation and evaluation of the orientation process. A positive experience of supporting professional growth during the orientation period is also of high value. This may also contribute to the socialization of the work community, which has been identified as an important goal in orientation (Phillips et al., 2015).

7.1.2. The quality of the clinical learning environment and supervision and its associations between socio-demographic and orientation-related factors

Assessments regarding the quality of the clinical learning environment and supervision seem to be quite homogeneous. The findings of this study demonstrate the quality of orientation as calling NHNs by their own names as well as the preceptors having positive attitudes towards orientation. Earlier, Muir et al. (2013) have reported that preceptors largely view their role positively and perceive to have a positive impact on the preceptee. In our results, the orientation included multiple learning situations related to nursing care. Providing multiple clinical experiences during orientation is essential also according Kaldal et al. (2024). Furthermore, our findings point out that respect and endorsement were present in supervisory relationships between preceptors and NHNs. Many studies have highlighted the importance of preceptors and their training, education, and competence (Condrey, 2015; Kennedy, 2019; Martínez-Linares et al., 2019; Powers et al., 2019; Quek & Shorey, 2018; Rush et al., 2019).

Support from nurse managers, the smooth flow of information related to nursing care and service, the interest of nursing staff in

orientation, well-performed orientation at the unit level, and regular feedback from preceptors need to be better considered according to our results. Support from nurse managers was also stressed by Gellerstedt et al. (2018).

From the background factors related to the clinical learning environment and supervision, the same associations could be identified than in relation to the comprehensive process of orientation. First, the identification of the learning goals for the orientation period was an essential factor contributing to the high quality of orientation in this study. This may also help to optimize the duration of the orientation period (Ernawaty et al., 2024).

Second, the more positive the experience of reaching the learning goals was, the more positive were the evaluations of the quality of the clinical learning environment and supervision, except for the supervisory relationship. Lalithabai et al. (2021) have noticed that it is important to modify the orientation to consider the views of NHNs. On the contrary, if mutual supervisory conversations between the preceptor and preceptee were performed regularly, it had a positive effect on the supervisory relationship according to our findings.

Third, in this study, supporting professional growth during the orientation period correlates positively to the evaluations of the quality of the clinical learning environment and supervision. In this study, there were no differences between ORs and ICUs in relation to evaluations of the clinical learning environment and supervision, which support the efforts to standardize orientation at organization level. It has been suggested by Kaldal et al. (2024) that hospitals should take into consideration that initial employment experiences of newly graduated nurses will influence their commitment to profession and workplace. Also, that structured orientation practices and measurement of retention should be established (Kaldal et al., 2024). Based on our study we recommend that the quality of orientation should also be systematically measured and developed to improve the retention of NHNs, and to support their professional growth.

8. Strengths and limitations of the study

One strength of this study was the use of previously validated and used instruments. The psychometric properties of the OPE-instrument© have been proven as moderate in earlier studies by Peltokoski (2016). Moreover, the CLES+T Scale© (Saarikoski et al., 2008) has been widely used as a research instrument (e.g., Cant et al., 2021; Pitkänen et al., 2018) in the context of student supervision and several different language versions has been validated (Cant et al., 2021). To ensure reliability, both instruments were tested in terms of internal consistency and Cronbach's alfa values were from acceptable to excellent (Table 3). Given that the modified CLES Scale© was used in a new study context, the internal consistency was relatively good and consistent with the findings of Lindfors et al. (2022) when they used the CLES Scale© in the context of orientation of newly graduated nurses. Lastly, to promote the transparency of this study, the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement was used as a guideline (Von Elm et al., 2007).

However, this study has limitations that should be discussed. This study was a cross-sectional survey with convenience sampling technique used. Participants were recruited only from one university hospital. Thus, interpretation and generalization must be made with caution. In terms of external validity, the response rate was 44, which is relatively low, but can be considered adequate for an online survey. To improve the response rate, two reminders were sent through nurse managers to forward to eligible respondents. In the future, systematic evaluation of the quality of orientation for NHNs will be needed, and different methods for sampling, recruitment, and data collection ought to be employed. Therefore, the results of this study provide a basis for further research.

9. Implications for nursing management

To develop orientation further and to avoid pitfalls, it is important to outline the current situation regarding the quality of the orientation of NHNs. Therefore, nurse managers need evidence-based knowledge about the orientation process and quality from the perspective of the NHNs to make justified decisions concerning orientation in their organizations. The quality of orientation must be systematically evaluated by using the OPE-instrument© and CLES+T Scale©, for example. Based on the results, the need for further development could be recognized. Moreover, nursing practice in acute care settings needs competent nurses who have gone through a high-quality orientation process. Nurse managers are in a key position to enable this as well as to facilitate the skills of preceptors at an organizational level.

10. Conclusions

NHNs evaluated the quality of the orientation in a university hospital's acute care settings at an appropriate level. However, to further improve the comprehensive orientation process in these settings, evaluation should be systematically performed at different checkpoints in the process, at the beginning to identify earlier competence, and during the orientation period to ensure progress. Also, we found that when learning goals are set and achieved, NHNs evaluate comprehensive orientation process and clinical learning environment and supervision as better. Thus, it is recommended that evaluation must be based on the learning goals set for every NHN individually, and learning goals should be determined by earlier work experience and/or competence requirements of NHNs.

In terms of the quality of the orientation, this study highlights the importance of a good supervisory relationship between NHNs and their preceptors, including mutual supervisory conversations. However, more attention must be paid to developing the attitude climate in units to ensure that the whole staff is committed to providing orientation for NHNs. Also, regular feedback from preceptors and nurse managers should be included in orientation practices. Thus, it is recommended that responsibilities and roles concerning orientation of NHNs are clarified, and preceptors are given adequate orientation education. To sum up, these procedures are highly recommended in terms of increasing the availability of qualified nursing staff in the future.

CRediT authorship contribution statement

Satu Rauta: Writing – original draft, Visualization, Methodology, Formal analysis. **Kristiina Junttila:** Writing – review & editing. **Camilla Strandell-Laine**: Writing – review & editing. **Jaana Peltokoski:** Writing – review & editing. **Toni Haapa:** Writing – review & editing, Validation.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Data availability

The datasets generated and/or analysed for the current study are not available because of data protection practices.

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