

Original Article

A Web-Based Survey of Finnish Nurses' Perceptions of Conflict Management in Nurse-Nurse Collaboration

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Abstract

Background: Conflict management among RNs is important when considering the well-being of nurses and the ongoing challenges caused by the shortage of nurses.

Objective: The aim of this study was to explore registered nurses' (RN) perceptions of conflict management in RN-RN collaborations and the relationship between RNs' backgrounds and conflict management.

Methodology: Data were collected from RNs (n=113) working at a university hospital in Finland using Dougherty and Larson's (2010) Nurse-Nurse Collaboration (NNC) Scale and analyzed descriptively by cross tabulation, and using the Chi-squared test.

Results: RNs who worked in shifts ignored or overlooked disagreements more frequently than those who exclusively worked during the day. Overall, 75% of the respondents reported that RNs work together to resolve conflicts. RNs who had more than 10 years' work experience in their current unit reported an unwillingness to ignore disagreements more frequently than their less experienced counterparts.

Conclusions: Our findings suggest that RN's approaches to conflict situations are influenced by their shift patterns. RNs who work on day shifts are more likely to have to deal with conflicts as they arise rather than putting them aside.

Keywords: web-based survey, conflict management, Finnish nurses, collaboration

Introduction

Occasional conflicts are inevitable in normal human interactions (Porter-O'Grady & Malloch 2011) and healthy relationships (Mahon & Nicotera 2011). As such, they periodically occur between collaborating nurses and can directly affect nurses' levels of job stress and job satisfaction. Their severity can be minimized by maintaining high unit morale and

emphasizing interactional justice, both of which support agreeable conflict management styles (Almost et al. 2010).

RNs must play a range of different professional roles in their collaborations with patients, other healthcare professionals, families, and healthcare organizations. They are, therefore, expected to master multiple interaction skills. (Apker et al. 2006.) According to

Almost (2006), the main causes of conflicts are interpersonal issues such as a lack of trust and negative emotions, along with individual characteristics such as differences in individuals' values and educational backgrounds. In some cases, conflicts can be beneficial (Brinkert 2010): if handled well, they can have positive outcomes, give rise to new ideas, and enhance internal cohesiveness (Almost 2006; Mahon & Nicotera 2011).

We applied a modified version of Thomas-Kilmann's conflict management model (Thomas 1992) having two dimensions to measure a person's behavior in conflict situations: assertiveness and cooperativeness. Assertiveness is the extent to which an individual attempts to satisfy their own concerns while cooperativeness is the extent to which they attempt to satisfy the other person's concerns. The model identifies five conflict management modes: competing, collaborating, avoiding, accommodating and compromising. The positions of the conflict's participants with respect to the two dimensions explain and predict the likelihood that each of the five modes will be adopted. As such, an individual's behavior in a conflict situation depends on their personal predispositions and the nature of the situation. (Thomas 1992.)

The healthcare environment is constantly changing and collaboration between nurses is becoming ever more important for meeting the needs of the population and ensuring patient safety. Collaborations and relationships with colleagues are often dependent on well-being at work (Bogat, Ellefsen & Severinsson 2005), a healthy work environment (Averlid & Bihari Axelsson 2012) and high quality of care (Kvist et al. 2013). These factors become increasingly important as the workforce ages (Utriainen & Kyngäs 2011). Notably, positive work environments help to minimize the numbers of nurses leaving the profession (Hinno, Partanen & Vehviläinen-Julkunen 2012).

The research questions

The aim of this study was to explore RNs' perceptions of conflict management in RN-RN collaboration and the relationship between RNs' background variables and conflict management. The research questions for the study were:

1. What are RNs' perceptions of RN-RN conflict management in a hospital?
2. What is the relationship between the background variables of nurses and their perceptions of RN-RN conflict management?

Background

Conflict and conflict management

Conflict can be described as 'a process involving two or more people where a person perceives the opposition of the other' (Almost 2006) or 'the concerns of two people appear to be incompatible' (Thomas 1992). Conflicts have also been described as indicators of differences that are always present to some degree within working units (Porter-O'Grady & Malloch 2011)

Poor collegiality and unsolved conflicts can lead to job dissatisfaction (Cox 2003) and contribute directly to job-related stress (Almost 2010). Conflicts might also affect an individual's family life and lead to inappropriate behavior towards other family members (Dehghan & Negarandeh 2009).

Conflict management encompasses both problem solving and within-group conflict resolution strategies (Dougherty & Larson 2010). Nurses' relationships with their colleagues, their working contexts, and their personal characteristics all affect how they perceive and deal with conflicts (Almost et al. 2010; Porte-O'Grady & Malloch 2011). Mutual understanding and interaction are crucial for conflict prevention (Dehghan & Negarandeh 2009) and often compromising is the mode of choice to find an acceptable solution that satisfies the persons involved (Thomas 1992). Though, accommodation might be preferred in some situations to satisfy the other persons (Thomas 1992). Duddle and Boughton (2007) explored how nurses interacted and related to each other. Three themes were emphasized: difficult interactions, resolving conflict situations and tolerance. Difficult interactions were anticipated and avoided when conflict situations were better tolerated. Experienced nurses could sense poor atmospheres and had developed skills for avoiding conflict situations. This behavior might emerge due of diplomacy or withdrawing from an intimidating situation or not need of pursuing either concern (Thomas 1992). However, new and inexperienced nurses did not necessarily have these skills and were therefore more prone to conflicts (Duddle & Boughton 2007). Losa Iglesias and Becerro De Bengoa Vallejo (2012) identified multiple conflict resolution styles in their study of different healthcare settings. They distinguished between competing (more common among men), compromising, avoiding, accommodating and collaborating styles of conflict management: these are the categories used in the Thomas-Kilmann's model. (Thomas 1992.) The Thomas-Kilmann's model (1992) suggests that

competition and compromise may be more common when the conflicting parties are under time pressure. According to Porter-O'Grady and Malloch (2011), people who become deeply involved in conflicts sometimes let their emotions rule during conflict management and thus forget the actual reason for the conflict. This often means that the problem goes unresolved and may create a new one.

Collaboration

The term "collaboration" derives from the Latin word *collaborare*, meaning 'to labor together' (Merriam-Webster) and has been defined as 'working together for common goals' e.g. (Henneman 1995; Whittington 2003). Collaboration requires nonhierarchical relationships based on knowledge and expertise in which power is shared (Henneman 1995). In healthcare, collaboration can be described as a multidisciplinary process involving joint goal-setting and decision making with shared responsibility and power whereby individuals work together in order to achieve the best treatment for the patient (Henneman 1995; Silen-Lipponen, Turunen & Tossavainen 2002; Petri 2010). Collaborating might mean that the participants are exploring a disagreement to learn from each other (Thomas 1992). Good collaboration is encouraged by joint training that promotes confidence and respect. These qualities in turn produce a good working atmosphere that encourages open interaction as well as mutual recognition of roles, skills and responsibilities. (Petri 2010.)

Although nurse-physician collaboration has been studied since the early 1960s (Stein 1967), little research has focused on RN-RN collaboration (Dougherty & Larson 2010). However, RN-RN collaboration has been linked to job satisfaction (Almost et al. 2010), an improved patient care environment (Goldschmidt & Gordin 2006), patient safety (Dougherty & Larson 2010) and patient satisfaction and stress reduction (Kalish, Curley & Stefanov 2007). Tuckett, Winters-Chang, Bogossian and Woods (2014) qualitative analysis found that both managers' lack of support and unsupportive relationships within group work are contributing to pushing nurses out of the profession. Good collaborations are founded on supportive workplace conversations that allow the flow of knowledge and information (Dougherty & Larson 2010), facilitate the consideration of processes and strengthen confidence (McDonald et al. 2010). They also encourage the adoption of a shared set of values (McDonald et al. 2010). Co-workers' support and

supervision are significant job resource factors for nurses (Rickard et al. 2012). Similarly, nurses' job satisfaction derives from their sense of community, which is enhanced by their trust in their colleagues, a strong community spirit, a good flow of information and the welcoming of new employees (Kvist et al. 2012).

Methodology

Design

A descriptive cross-sectional survey design was used. The Nurse-Nurse Collaboration (NNC) Scale, developed by Dougherty and Larson (2010) was used for data collection. This scale consists of 35 items that assess five domains of collaboration: conflict management, communication, shared process, coordination, and professionalism. The seven items relating to the conflict management domain were considered in this work. Respondents specify their level of agreement with each item using a 4-point Likert scale ranging from 1 = *strongly disagree* to 4 = *strongly agree*: a higher total score indicates a more positive attitude toward nurse-nurse collaboration. (Dougherty & Larson 2010.) The questionnaire sent out in this study also included questions relating to the nurses' background variables such as gender, age, educational status, other training/continuing education, work unit, work experience in their current working unit, total work experience in the healthcare sector, form of employment and shift pattern.

The items were translated into Finnish using the double-translation method and revised by two official language revisers. The translations were compared and corrected. The scale was pretested on a small group of RNs ($n=18$) working in a central hospital in one municipality in Finland before conducting the main study. (Ylitörmänen, Kvist & Turunen 2013.) The wordings of a few items were revised and clarified based on the results of the pilot study.

Sample and data collection

The sample consisted of registered nurses ($N=252$) working in a university hospital in Finland. Participants were recruited by making contact with the nursing directors and head nurses at the studied hospital. Relatively few of these individuals expressed an interest in participating, possibly because another large survey was being conducted at the same time at the hospital in question. Therefore, respondents were selected by convenience sampling. The head nurses of selected units were informed about the study including a brief overview of its

objects and methods. Data were collected using an online questionnaire sent to the head nurses, who distributed it to the RNs working in their units during spring of 2011. Altogether, 114 surveys were returned. However, one returned survey had to be rejected because it was not completely filled out, 113 responses were used in the final analyses. The response rate was 45%. In total 252 questionnaires were distributed— one for each RN in the participating units.

Data analysis

The gathered data were analyzed and processed statistically using the SPSS (statistical software package) for Windows 19.0 program and described using frequencies and percentage distributions. Respondents' average scores with respect to the conflict management variable were calculated by adding together their item scores for the seven conflict management items to obtain a single score for further statistical analyses. Some of the items were negatively worded and therefore had to be reverse scored before calculating this summed variable. The sample size was large enough to give the analyses a statistical power of 80%. A cross-tabulation based on Pearson's chi-square analysis (Polit & Beck 2008; Grove, Burns & Gray 2013) was calculated to identify correlations between the nurses' backgrounds and their responses to the seven conflict management items. In these analyses, responses to items from the NNC scale were dichotomized. Responses of 1 or 2 were classified as disagreement and responses of 3 or 4 were classified as agreement. The dichotomized response to each item was then treated as the dependent variable and the background variables were used as the independent variables.

The background variables selected for analysis were respondent age, length of service in current working unit, total healthcare work experience, educational status, and further training/continuing education. Four respondent age groups were defined: ≤ 30 years, 31 – 40 years, 41 – 50 years and ≥ 51 years. The length of the respondent's service in their current working unit was categorized as ≤ 4 years, 5 – 9 years, or ≥ 10 years. Three total healthcare work experience categories were defined: ≤ 9 years, 10 – 20 years and 21 years or over. The respondents' educational status was classified as RN (diploma), RN (bachelor) or pediatric nurse. Additionally, three categories of additional training/continuing education were defined: higher degree (including upper tertiary education and university degrees), vocational

education and training (an open university education and continuing professional training) and specialized studies at a polytechnic (bachelor specialization). These categorical variables were created to facilitate the interpretation of the responses. Some of the categories were redefined after a preliminary classification of the responses because they were not represented by many respondents. A significance threshold of $p < 0,05$ was applied in all statistical analyses. (Polit & Beck 2008.)

Ethical considerations

Permission for this study was sought from the hospital's chief nursing officer and the personnel manager, in accordance with its established ethical guidelines. A covering letter providing information on the study's purpose and voluntary nature as well as a confidentiality pledge was attached to the questionnaire. The covering letter also included the researcher's contact information. Participation in the study was voluntary and the respondents were aware of their rights to withdraw from the study at any time. Completion of the questionnaire was interpreted as consent to participation. (Polit & Beck 2008.) The responses were analyzed in confidence so that neither individual participants nor the research organization or the nurses' service units could be identified.

Reliability

There were some technical problems with the distribution of the survey and other surveys were also being carried out on the wards at the same time; these factors may have influenced the low response rate of the survey. The content and construct validity of the original NNC scale were evaluated by psychometric testing involving 76 staff nurses working in four ICUs in the United States.

These tests assessed the scale's reliability based on convergent validity correlations. The overall Cronbach alpha for the scale was .87 and its alpha for conflict management was .76. (Dougherty & Larson 2010.) The overall Cronbach alpha for the Finnish scale was .67 and the Cronbach alpha for its assessment of conflict management was .87. These values reflect 'acceptable' and 'good' levels of internal consistency, respectively.

Results

Characteristics of the RNs

Ninety-six percent of the respondents were women and the remaining 4% were men. Their average age was 41 years (SD 9.8); the youngest participant was

22 and the oldest was 62 years old. Over half of the respondents reported that they had acquired further training in addition to their nursing training, such as continuing education for professionals, an open university education, a university degree or a bachelor degree.

On average, the respondents had worked in healthcare for 15.5 years (ranging from less than 1 to 34 years, *SD* 9.6). Most of the RNs worked in shifts (79%) and 83% reported that they held a permanent position. The RNs had worked in their current unit for 9.8 years on average (with a range of less than 1 to 33 years, *SD* 8.1).

Table 1: Registered nurses' perceptions of RN-RN conflict management, (n = 113)

Conflict management	Disagree		Agree	
	%	(n)	%	(n)
All points of view will be carefully considered in arriving at the best possible solution	25	(28)	75	(85)
All the nurses will work hard to arrive at the best possible solution	25	(28)	75	(85)
The nurses involved will not settle the dispute until all are satisfied with the decision	44	(50)	56	(63)
Nurses will work together to resolve a conflict	25	(28)	75	(84)
When nurses disagree, they will ignore the issue, pretending it will go away	78	(88)	22	(25)
Nurses will withdraw from conflict	68	(77)	32	(36)
Disagreements between nurses will be ignored or overlooked	70	(79)	30	(34)

Nurses perceptions of RN-RN conflict management in the hospital

The respondents assessed their own performance and that of their fellow nurses' in conflict situations. Most of them (75%) reported that RNs considered all points of view carefully in most conflict situations. Three-quarters of the respondents reported that RNs worked hard to achieve the best possible solution and to resolve conflicts. Moreover, 56% of the respondents stated that RNs would not consider a dispute settled until all parties were satisfied with the decisions made. Nevertheless, 22% of all nurses reported that RNs would avoid the issue at hand in situations where nurses disagreed and hope that the problem would go away. However, the majority (93%) of the RNs who had ten years or more experience in the current unit disagreed with this statement. Similarly, 32% of the respondents reported that RNs attempted to remove themselves from conflict situations and that disagreements between nurses tended to be ignored or overlooked (30%) (Table 1).

The relationship between the nurses' backgrounds and conflict management were investigated using Spearman's correlation coefficient. However, no significant correlations were identified. Pearson's chi-squared test revealed that 34% of the nurses who worked in shifts agreed with the "Disagreements between nurses will be ignored or overlooked" item compared to only 12% of nurses who worked exclusively during the daytime ($\chi^2(1) = 4.230, P = 0.040$, two-tailed). The chi-squared test also showed that educational background affected RNs' responses to the item "Nurses will work together to resolve a conflict" ($\chi^2(1) = 7.948, P = 0.019$, two-tailed) (Table 2).

Discussion

The aim of the study was to explore registered nurses' perceptions of conflict management in nurse-nurse collaboration and the relationship between nurses' backgrounds and conflict management. Three-quarters of the respondents stated that RNs worked together to resolve conflicts. This cooperative behavior reflects the compromising mode of conflict handling. Compromising is an intermediate between competing and accommodating in which issues are addressed more directly. (Thomas 1992.) The responses also indicated that pediatric RNs and RNs with bachelor's degrees were more

likely to withdraw from conflict situations than RNs with diplomas. According to the Thomas-Kilmann model (Thomas 1992), this behavior would be classified as avoiding and can be explained as a diplomatic gesture or a desire to address the conflict at a more convenient time. These results are not entirely convergent with those of Mahon and Nicotera (2011), who found that nurses rarely addressed conflict situations directly and preferred constructive approaches when handling conflicts. The avoidance of conflict situations can be caused by a fear of consequences, or a feeling that interference might make the situation worse. On the other hand, resolving conflicts requires considerable effort. (Vivar 2006.) Losa Iglesias and Becerro de Bengoa Vallejo (2012) reported that the most common approaches used in conflict situations included those termed compromising, competing, avoiding and accommodating. In their study, the collaborating approach was seldom used. The nurses' conflict management styles also varied with their work settings: compromising was most common in academic work environments but accommodation was the most common approach in clinical environments.

More than half of the respondents reported that the RNs would not consider their dispute settled until all parties were satisfied with the decision. However, a substantial minority of respondents did not share this view. This minority's position may reflect unassertiveness or indicate that some RNs feel that conflicts between nurses are primarily resolved through accommodation and avoidance. (Thomas 1992.)

Previous studies have shown that conflicts are often perceived negatively and therefore avoided (Porter-O'Grady & Malloch 2011). In addition; a lack of conflict management skills may induce some individuals to withdrawal from uncomfortable situations. Perceptions and reactions have important effects on conflict control (Dehghan & Negarandeh 2009), and an understanding of conflicts' origins and effects can help in reducing their occurrence (Almost 2006). There are multiple ways of dealing with conflicts, so nurses involved in conflict situations must take responsibility for selecting the best ways of resolving conflicts as they occur (Vivar 2006). While conflicts cannot be avoided, the number of destructive conflicts can be reduced by mediation (Brinkert 2010).

Conflict situations are challenging for all RNs, but experienced nurses have often learned to avoid them (Duddle & Boughton 2007). Nurses' conflict management styles have been found to vary with age: younger nurses were more likely to use avoiding and accommodating approaches than their more experienced counterparts, suggesting a lack of conflict management resources. (Losa Iglesias & Becerro De Bengoa Vallejo 2012.)

Finally, the results of this study indicated that RNs who worked in shifts ignored and overlooked disagreements more often than those who worked during the day. This might be because shift workers have a larger and more variable number of colleagues: it may be easier to confront colleagues you work with every day than people you only work with now and then. Working in mixed teams can also make it easier for workers to walk away from conflict situations because they do not have to face the same colleagues every day. Dehghan and Negarandeh (2009) reported that both the nature and conditions of nurses' assignments affect the occurrence and management of conflicts. Moreover, collegial support and positive communication have positive effects on coping at work and on nurses' well-being. Therefore, conflict situations should be addressed quickly with supportive conversations. (McDonald et al. 2010.) The quality of communication during reports and when providing support within a working unit, reflects its overall capacity for conflict resolution and support for teamwork. In particular, constructive criticism and interpersonal interactions are essential for effective communication. (DiMeglio et al. 2005.) According to Vivar (2006), the recognition of early symptoms of conflict and confrontation is essential for the satisfactory resolution of conflicts.

Limitations

This study has some limitations. First, the respondents' approaches to conflict management were evaluated based on their own self-assessments, which may have distorted the responses. Second, the data were collected by convenience sampling from a single university hospital. Response rate was low: in this case it was only 45%. This may limit the generality of the results, meaning that they might not be fully reflective of RNs' perceptions.

Conclusion and implication for practice

A key part of this work is to encourage open discussion in cases of conflict in order to achieve the best possible problem solutions. Nurse leaders play

vital roles in conflict management because they can make constructive interventions and normalize conflict communication (Brinkert 2010). However, when doing so they must bear the different conflict management styles of individual RNs in mind and take care to ensure that all parties to the conflict are heard even if they strongly disagree with others' views. The results of this study suggest that conflicts are more likely to be addressed directly by RNs who work on day shifts. This trend should be accounted for by nursing leaders along with the personality traits of their nurses when planning working schedules.

Our results also indicate a need to develop nurses' conflict management skills to ensure that conflicts are resolved constructively regardless of the participants' shift patterns. Therefore, RNs should be given clear instructions on how to deal with conflict situations. Good collaboration and conflict management requires the maintenance and development of RNs' communication and interaction skills, which can be strengthened and developed by further training and supportive intervention based on pre-post studies. Mentor-mentee programs, where an experienced nurse outlines and explains the practices, experiences, roles, beliefs and values of their working unit to new members are useful for promoting the development of conflict management skills, especially among younger RNs and new employees. Collaboration between nurses is vital for effective nursing care and the creation of supportive working environments, but requires a shared feeling of togetherness based on trust and reciprocity. The development of such collaborations and shared sentiments are essential for increasing the attractiveness of the nursing profession and promoting a healthy workplace environment, especially given the shortage of nurses and the need to ensure that trained nurses remain in the field.

Nurses' conflict management styles have been studied quite extensively. This report adds to the existing literature by providing new information gathered using a different approach that focuses on conflict management within collaborations.

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Table 2

The relationships between registered nurses' background variables and conflict management (n, %, χ^2 , P)

Background variables	All points of view will be carefully considered...		All the nurses will work hard...		The nurses involved will not settle...		Nurses will work together...		When nurses disagree...		Nurses will withdraw...		Disagreements between nurses will be ignored...	
	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Age, years (n = 113)														
≤ 30 (n=23)	6 (26)	17 (74)	6 (26)	17 (74)	11 (48)	12 (52)	5 (22)	18 (78)	15 (65)	8 (35)	15 (65)	8 (35)	14 (61)	9 (39)
31-40 (n=29)	9 (31)	20 (69)	9 (31)	20 (69)	10 (34)	19 (66)	7 (24)	22 (76)	23 (79)	6 (21)	19 (65)	10 (35)	18 (62)	11 (38)
41-50 (n=41)	10 (24)	31 (76)	9 (22)	32 (78)	21 (51)	20 (49)	12 (29)	29 (71)	34 (83)	7 (17)	29 (71)	12 (29)	32 (78)	9 (22)
≥ 51 (n=20)	3 (15)	17 (85)	4 (20)	16 (80)	8 (40)	12 (60)	5 (25)	15 (75)	16 (80)	4 (20)	14 (70)	6 (30)	15 (75)	5 (25)
Educational status (n = 112)							$\chi^2 7.94 p 0.019^*$							
RN, diploma (n= 47)	10 (21)	37 (79)	10 (21)	37 (79)	21 (45)	26 (55)	12 (26)	35 (74)	40 (85)	7 (15)	36 (77)	11 (23)	33 (70)	14 (30)
RN, bachelor (n=53)	12 (23)	41 (77)	12 (23)	41 (77)	24 (45)	29 (55)	10 (19)	43 (81)	39 (74)	14 (26)	35 (66)	18 (34)	38 (72)	15 (28)
RN, pediatric (n=12)	6 (50)	6 (50)	6 (50)	6 (50)	5 (42)	7 (58)	7 (58)	5 (42)	8 (67)	4 (33)	5 (42)	7 (58)	7 (58)	5 (42)
Other training (n = 58)														
Higher degree (n=12)	5 (42)	7 (58)	4 (33)	8 (67)	8 (67)	4 (33)	3 (25)	9 (75)	7 (58)	5 (42)	7 (58)	5 (42)	7 (58)	3 (25)

Vocational education and training (n=26)	4 (15)	22 (85)	6 (23)	20 (77)	9 (35)	17 (65)	12 (46)	14 (54)	19 (73)	7 (27)	17 (65)	9 (35)	17 (65)	9 (35)
Specialized studies (n=20)	6 (30)	14 (70)	4 (20)	16 (80)	9 (45)	11 (55)	6 (30)	14 (70)	15 (75)	5 (25)	12 (60)	8 (40)	14 (70)	6 (30)
Work experience in current unit, years (n = 112)														
≤ 4 (n=34)	5 (15)	29 (85)	9 (26)	25 (74)	14 (41)	20 (59)	6 (18)	28 (82)	24 (71)	10 (29)	24 (71)	10 (29)	22 (65)	12 (35)
5-9 (n=50)	16 (32)	34 (68)	12 (24)	38 (76)	26 (52)	24 (48)	15 (30)	35 (70)	37 (74)	13 (26)	31 (62)	19 (38)	35 (70)	15 (30)
≥10 (n=28)	7 (25)	21 (75)	7 (25)	21 (75)	10 (36)	18 (64)	8 (29)	20 (71)	26 (93)	2 (7)	21 (75)	7 (25)	21 (75)	7 (25)
Work experience in the healthcare, years (n = 112)														
≤ 9 (n=33)	10 (30)	23 (70)	10 (30)	23 (70)	15 (45)	18 (55)	8 (24)	25 (76)	22 (67)	11(33)	22 (67)	11 (33)	22 (67)	11 (33)
10-20 (n=47)	13 (28)	34 (72)	12 (26)	35 (74)	24 (51)	23 (49)	15 (32)	32 (68)	40 (85)	7 (15)	32 (68)	15 (32)	33 (70)	14 (30)
≥ 21 (n=32)	5 (16)	27 (84)	6 (19)	26 (81)	11 (34)	21 (66)	6 (19)	26 (81)	25 (78)	7 (22)	22 (69)	10 (31)	23 (72)	9 (28)
Form of employment (n = 111)														
A permanent position (n=92)	24 (26)	68 (74)	22 (24)	70 (76)	42 (46)	50 (54)	24 (26)	68 (74)	74 (80)	18 (20)	64 (70)	28 (30)	65 (71)	27 (29)
Fixed-term employment (n=19)	3 (16)	16 (84)	4 (21)	15 (79)	6 (32)	13 (68)	3 (16)	16 (84)	14 (74)	5 (26)	12 (63)	7 (37)	14 (74)	5 (26)
Main working shift (n = 112)														
Daytime work (n=24)	5 (21)	19 (79)	5 (21)	19 (79)	8 (33)	16 (67)	6 (25)	18 (75)	20 (83)	4 (17)	17 (71)	7 (29)	21 (88)	3 (12)
Shift pattern (n=88)	23 (26)	65 (74)	22 (25)	66 (75)	41 (47)	47 (53)	22 (25)	66 (75)	68 (77)	20 (23)	59 (67)	29 (33)	58 (66)	30 (34)

* $p < 0.05$ $\chi^2 4.23 p 0.040^*$