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Nursing Bedside Handover does not Influence Cardiovascular Surgery Patients' Participation in Nursing Care Decision-Making Process: Results Three Months after Implementation

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Abstract

Background: Nursing bedside handover has been reported as a method to foster patients' participation in their care. However, to date, no study has assessed the effect of implementing nursing bedside handover on patients' perception of being involved in the decision-making process of their care and the side effects of nursing bedside handover.

Aim: This study aims to evaluate the effect of nursing bedside handover on patients' perception of shared-decision making in nursing care and the side effects of nursing bedside handover.

Method: Single-centre, non-experimental study.

Results: There were no statistically significant differences regarding patients' perception of decision-making aspects. Before and after implementation of nursing bedside handover, most patients perceived the style of the decision-making process about their nursing care as paternalistic. No side effects of nursing bedside handover implementation could be detected. During implementation of nursing bedside handover nurses expressed distress with and showed a defensive attitude toward nursing bedside handover.

Conclusion: The implementation of nursing bedside handover has no influence on patients' perception of shared-decision making in nursing care and side effects in a cardiovascular surgery patient population. Evaluation of nursing bedside handover should be conducted over a period longer than three months.

Keywords: Nursing handover, bedside handover, decision-making process, nursing care, inpatients, hospital

Introduction

According to a concept analysis by Morgan and Yoder (2012), person-centred care can be defined "a holistic (bio-psychosocial-spiritual) as approach to delivering care that is respectful and individualized, allowing negotiation of care, and offering choice through a therapeutic relationship where persons are empowered to be involved in health decisions at whatever level is desired by that individual who is receiving the care" (Morgan & Yoder, 2012, p. 8). Patient-centred care is associated with increased patient satisfaction with care, increased quality of life and improved self-care ability (Sidani, 2008; Wolf et al., 2008; Poochikian-Sarkissian et al., 2010; Suhonen et al., 2012). Core elements of all definitions of patient-centred care are good patient-health care provider communication and

patient involvement in decision-making about care (Kitson et al., 2013). To enable patients to play a pivotal role in making decisions about their care, they are in need of information regarding their disease and treatment goals. In addition, nurses must take into account the personal situation, as well as, the preferences of the patient (Suhonen, Välimäki & Katajisto, 2000). To provide hospitalized patients with the needed information and to explore their needs and wishes, patients should be involved in the nursing exchange information process during shift changes. A possible method to achieve this goal is the nursing bedside-handover (NBH). Nursing bedside-handovers, characterized by information exchanges from the out-going to the on-coming nurse while patients are present, have been described since the 1990s (McKenna, 1997; Watkins, 1997). Traditionally, and still common in hospitals, information exchange about patient care and treatment are taking place in private rooms with patients excluded. This seems congruent with the functions of nursing handovers. Kerr (2002) found that – in addition to the aim of information exchange – the nursing handover has a social and educational function. During handovers, nurses are able to share stories and experiences about patients, thus, allowing nurses to deal with the stress and distress they experienced during their shift. In addition, the time of nursing handover is used for socializing activities and for educational purposes (Kerr, 2002).

Overall, nursing handovers have been described as heterogeneous related to the location, method, structure and content, and is depending on ward culture, setting and geography. The verbal exchange of information with or without the patient, taped and written handovers are common types of information exchange (Scovell, 2010; Athanasakis, 2013).

Several studies have been conducted to evaluate the implementation of NBH in various settings. Bradlev and Mott (2014) conducted a qualitative study using interviews from patients and nurses. Patients' perception of NBH could be classified into three categories. First, patients regarded NBH as a time of enjoyment, where nurses spent their time with them. Second, after the NBH took place, patients were able to identify the nurse who was in charge of them, and third, patients got the feelings that they were involved in decision-making about their own care and that their opinion was important. Moreover, patients' perceived NBH as an opportunity to get information about their situation. McMurray and colleagues (2011) interviewed ten patients regarding their perception of NBH. According to the study results, patients' felt acknowledged as being a partner in the care process when information about their situation were shared by the nurses. They also felt that this information exchange and discussion led to personalized care thus, helping them to know how their care was progressing. Additionally, patients get the opportunity to amend any inaccuracies they recognized during the information exchange. Many patients were pleased to be involved in the nursing handover and to clarify their expectations or any misunderstandings; however there were also some patients who preferred to play a less participative role.

Sand-Jecklin and Sherman (2013) surveyed 232 patients before and 178 patients after implementing NBH on a medical-surgical unit. After implementing NBH, more patients agreed to the statements that NBH helped them to know which nurse was responsible for them and that they felt they were included in the shift report. Additionally, more patients reported their perception that important information about their care was communicated from shift to shift. However, some patients were concerned about information confidentiality, had the feeling of not being involved in NBH or perceived the report as unnecessary.

Similar results were obtained by Cairns et al. (2013). On an inpatient trauma unit three months after NBH implementation more patients agreed to the statements "Nurses kept you informed" and "Staff included you in decisions related to treatment" then before NBH was introduced. Anderson and Mangino (2006) evaluated the implementation of NBH on a general surgical unit over a period of 8 months. Within this time period patients' satisfaction increased. Patients more positively perceived that nurses kept them informed, that the staff worked better together to care for them and that staff efforts increased to include them in decisions about their treatment.

Even though these findings indicate that the implementation of NBH is able to increase patients' involvement in decision-making about their care, no studies have used a standardized questionnaire to assess the effect of introducing NBH on patients' perception of being involved in the decision-making process about their care. In addition, to date, no study has evaluated the introduction of NBH using data from a cardiovascular-surgery patient population.

Research question

Therefore, this study aims to evaluate the effect of NBH implementation on different aspects of patients' experiences regarding their participation in decision-making of their nursing care. The following hypothesis was taken as a basis for this research:

• Patients perceive NBH as a patientcentred approach of information exchange between the nurse and the patient.

Based on this hypothesis the following research questions were posed:

- Do patients' perceptions of being involved in the decision-making process of their nursing care differ depending of the style of nursing handover?
- Do more patients perceive the decisionmaking process of their nursing care as shared or informed after introducing NBH compared to before the implementation of NBH?

Method

Design

This study was a single-centre, non-experimental study.

Setting & Patients

The study was conducted at a universityaffiliated heart centre in the south of Germany. All patients of two wards of the Department of Cardiovascular Surgery were invited to take part in the study between December 2012 and October 2013. Invitations took place three months before and three months after the implementation of NBH. Data were collected during a three-month period. Patients with insufficient understanding of the German language, age less than 18 years and patients who were not able to fill out the questionnaire according to the judgment of the nurse assistance were excluded.

Procedure

Eligible patients were asked to participate and received verbal information about the study aims and procedures by dedicated nurse assistances of the participating wards. The nurse assistances were not involved in nursing care or in the process of the nursing handover. If the patient was willing to take part in the study, the patient received a cover letter of invitation, a questionnaire and an envelope for returning the The cover letter provided questionnaire. information about the study's aims and assured participants that collected data would be kept confidential. In addition, if so desired, patients received further information about the study from the nurse assistance. Voluntary consent was assumed if the patient returned the questionnaire

Intervention

The process of NBH implementation followed several steps using a top-down approach. The decision to introduce NBH was based on literature-based evidence that patients get more involved in the decision-making process about their care when information about treatment and care were exchanged in the presence and with the participation of the patient. The decision to implement NBH was made by nursing director, the clinical nurse specialist of the department and the head nurse of the wards. First, nurses were informed about the aims and the intended procedure of NBH. Second, a group of nurses from each of the two cardiovascular wards discussed the proposed procedure and suggested some changes, which were incorporated into the proposed procedure after discussion with all ward nurses. Third, two months before and up until the moment of NBH implementation, nurses had the possibility of asking questions to the head nurse and the clinical nurse specialist about the aims and the procedure of NBH, as well as make suggestions about the evaluation of NBH. In this phase, four questions were added to the questionnaire that reflected the concerns of nurses. Fourth, the nurses received a pocket card on which the intended process of the NBH was described using a flow-chart (Figure 1).

In March 2013, the NBH implementation process started. For four weeks, the clinical nurse specialist and the head nurse attended the handovers and gave suggestions regarding how to handover improve the process and communication with the patient. However, after this time period, it turned out that some nurses were still unsure about the handover process and with incorporating the patient in handover communication. Therefore, we offered further training to improve communication skills for those nurses who reported high distress with and who showed a defensive attitude toward NBH. This further training helped the nurses to understand the aim of the NBH and was able to foster a feeling of safety while communicating with the patient.

Instrument

To evaluate patient's perception of shared decision-making in nursing care, the Smoliner-Scale was used (Smoliner et al., 2009). The Smoliner-Scale is based on Charles, Gafni and Whelan's (1999) model of treatment decision-making which comprises three stages of decision-making: information exchange, deliberation, and deciding on treatment to implement.

The Smoliner-Scale consists of three parts. Part one asks about patient preferences regarding the three stages of the model. Patient's perception of the three stages is evaluated in part two of the questionnaire, and part 3 collects sociodemographic variables.

In the first section of part 1, the patient is asked to rate the importance (1) that the patient is able to communicate his or her usual habits and experiences regarding his or her care to the nurse, (2) that the nurse explains all nursing measures in detail, (3) that the nurse addresses all of his or her issues, (4) that the nurse knows the patient's situation and (5) that the patient considers the best nursing measures for him/herself together with the nurse. The items could be rated using a six-point Likert-scales with 1 for "do not agree" to 6 for "do totally agree." In the first section of part 2, the same statements are given, however now the patient has to rate how these aspects were realized. Again, a six-point Likert-Scale was used with 1 for "never" and 6 for "ever."

In the second sections of parts 1 and 2, patients rated the preferences or perception of being involved in decision-making about eight specific nursing tasks (i.e., daily routine, diet, hygiene, excretion, movement, sleep and rest, pain treatment and discharge preparation). Preferences could be rated using a six-point Likert-scale with 1 for "unimportant" to 6 for "very important;" perception was rated with 1 for "never" and 6 for "ever." If a specific nursing task was not relevant, the patient could state this using the response option "not relevant."

The last sections of parts 1 and 2 asked about the preferred and perceived style regarding participation in nursing care decision-making. The patient could agree to one of four statements reflecting three decision-making styles: paternalistic, shared or informed.

Part 3 of the questionnaire asked about basic demographic and disease-related characteristics of the patient. Patients were asked to state their age, sex, length of hospital stay (1-2 days, 3-5 days, 6-7 days, 8-14 days, more than 14 days) and perceived overall health. Perceived overall health could be rated as excellent, very good, good, satisfactory or bad.

In the original study by Smoliner et al. (2009), Cronbach's alpha scores for parts 1 and 2 were evaluated using data from 967 hospitalized patients and revealed internal consistency values of 0.84 and 0.86 respectively. In our study, Cronbach's alpha was 0.87 (95% CI: 0.84 to 0.92) for part 1 and 0.90 (95% CI: 0.87 to 0.94) for part 2.

For the purpose of this study, we added a fourth part to the questionnaire consisting of four statements reflecting nurses' fears of NBH side effects. Patients were asked to rate (using a 10point numeric rating scale with 1=fully agree and 10=fully disagree) (1) how they perceived the confidentiality with information about their disease and nursing care, (2) if they felt disturbed by the shift change of the nurses, (3) if they felt uncomfortable when fellow patients heard about their disease or care and (4) if doctors and nurses gave the same information about their disease and care.

Part 1 of the Smoliner-Scale was not analysed due to the aim of this study, which focused on patients' perception of the decision-making process rather than on their preferences.

Ethics

The study protocol was approved by the ethical committee of the Albert-Ludwig University Freiburg, Germany (Ethics Committee No.: EK-Freiburg 509/12), and the study conforms to the principles outlined in the Declaration of Helsinki.

Data analysis

The data were coded and entered into IBM SPSS Statistics, Version 22. Patient datasets were included in the analysis if overall missing values did not exceed the threshold of 30% within parts 1 or 2 of the questionnaire. To describe patient characteristics, descriptive statistics were used. Mean and standard deviation were used for interval-scaled, normally distributed variables and median and interquartile range for nonnormally distributed variables. Normal distributions of the variables were checked using Kolmogorov-Smirnov-test. Categorical the variables are displayed as number and percentages. To assess differences regarding patients' preferences of shared decision-making in nursing care, independent t-test and Mann-Whitney-U-test were used. For categorical variables, Chi-Square-test or Fisher's exact test was used where appropriate.

Results

Between December 2012 and November 2013, 154 patients returned the questionnaire. Of these 55, (35.7%) were excluded from data analysis due to more than 30% missing data in part 1 or part 2 of the questionnaire.

Basic patient characteristics are displayed in Table 1. Overall, patients were predominantly male with an average age of 62 years. Mostly, they had a hospital stay between 8 and 14 days and rated their perceived health as "good." There were no differences in age, sex and perceived health before and after NBH implementation. After NBH implementation, more patients had a hospital stay of 8-14 days and less had a stay of more than 14 days (p=.001).

Participation in nursing care decision-making processes

Patients' perception of being involved in nursing care decision-making process was similar before and after NBH implementation; they perceived that their wishes were respected. If a nursing task was relevant, patients' were involved in the decision-making process. Ratings of patients' perception of being involved in decision-making before and after NBH implementation did not differ on a statistical significantly level (Tables 2, 3).

Decision-making style

Before and after NBH implementation, most patients perceived the decision-making process as paternalistic, with few perceiving it as shared. Only a minority believed that they solely came to a decision regarding their nursing care based on information they get. There were no relevant and statistical significantly differences before and after implementation of NBH (Table 4).

Side effects of NBH implementation

Patients did not report any undesired side effects of NBH. Regardless of the style of nursing handover, patients' thought that information about their disease was kept confidential and they perceived the nursing handover as none disruptive. In addition, it did not bother patients if a fellow patient witnessed an information exchange about their disease and care, and they did not perceive that nurses and doctors gave different information regarding their disease and care. There were no differences regarding these aspects before and after NBH implementation (Table 5).

Discussion

This is the first report of the effect of NBH implementation on patients' perception of being involved in the nursing care decision-making process in a cardiovascular surgery patient population. Three months after implementing NBH, no effect could be detected regarding perceived involvement in the nursing care decision-making process. Even though the period of time from introducing NBH to the time of the second data collection is very common in other studies with similar aims (Cairns, et al., 2013; Sand-Jecklin & Sherman, 2013) and seems to be appropriate for nurses to become familiar with the process of nursing handover while patients are present, in our study, nurses seem not to be sufficiently confident with the NBH procedure and showed a defensive attitude toward NBH. Though some nurses took part in further training to improve their communication skills and reported feelings of being more confident in communicating with the patient during the nursing handover afterwards, the evaluation time frame may be too short. The results of the study indicate the need to re-evaluate the effect of NBH after a longer time period (e.g., 1 year) to ensure a higher degree of awareness and penetration of the intended concept of NBH. Anderson and Mangino assessed patients' satisfaction after introducing NBH over an 8-month period. After three months, an increase in patient satisfaction could be observed, but only five months after NBH introduction, the increase in patient satisfaction could be considered stable (Anderson & Mangino, 2006).

Cairns et al. (2013) pointed out that the implementation process is difficult and that "sustaining bedside shift report has not been without challenges and requires ongoing monitoring and encouragement" (p. 163). They also assumed that some nurses reverted to the accustomed variation of nursing handover with information transfer in the nursing office. In fact, this is something we also observed.

Interestingly, patients' perception regarding different aspects of the decision-making process showed a non-statistically significant tendency to decrease, except for the item "consider best nursing measure together with nurse." This result corresponds to the development of the percentage of patients that perceived the decision-making style as shared. Before NBH implementation, 19.6% of patients perceived the decision-making process as shared compared to 27.5% after NBH implementation. This is in line with the results of other studies. Cairns et al. (2013) and Anderson and Mangino (2006) reported a significant change in patients' perception of being involved in decisions related to treatment.

Table 1: Patient characteristics

	All	Before bedside-handover group	After bedside-handover group	
	n= 99	n=51	n=48	p
Age [#]	62.4 (± 12.8)	62.3 (±14.9)	62.6 (±10.5)	0.92
Sex (Female)	30 (30.3%)	16 (16.2%)	14 (14.1%)	0.83
Length of Hospital stay				0.001
1-2 days	0 (0%)	0 (0%)	0 (0%)	
3-5 days	16 (16.2%)	3 (3.0%)	13 (13.1%)	
6-7 days	6 (6.1%)	0 (0%)	6 (6.1%)	
8-14 days	43 (43.4%)	19 (19.2%)	24 (24.2%)	
> 14 days	31 (31.3%)	21 (21.2%)	10 (10.1%)	
Perceived health*	3 (3-4)	3 (3-4)	4 (3-4)	0.11

NOTE: Percentage of groups may not total 100% due missing data [#]Mean (Standard deviation); * Median (Interquartile range)

Table 2: Patients' perception of decision-making aspects

	Before bedside-handover group	After bedside-handover group	р
1. Patient is able to communicate his/her usual	5.0 (±1.2)	4.9 (±1.3)	0.67
habits/former experience with his/her care			
2. Nurse explains all nursing measures	5.3 (±1.0)	4.9 (±1.3)	0.14
3. Nurse addresses patient's issue	5.4 (±0.9)	5.0 (±1.2)	0.11
4. Nurse knows patient's situation	5.3 (±1.0)	5.0 (±1.2)	0.29
5. Consider best nursing measure with nurse	3.7 (±1.8)	4.0 (±1.7)	0.47

Table 3: Patients' perception of being involved in decision-making about specific nursing care tasks

	Before bedside-handover group	After bedside-handover group	р
Daily routine	5.1 (±1.7)	5.4 (±1.9)	0.45
Diet	5.4 (±1.5)	5.3 (±1.7)	0.85
Hygiene	5.2 (±1.7)	5.4 (±1.9)	0.51
Excretion	5.3 (±1.6)	5.4 (±1.8)	0.71
Movement	5.5 (±1.4)	5.2 (±1.7)	0.31
Sleep & rest	5.4 (±1.4)	5.4 (±1.6)	0.90
Pain treatment	5.7 (±1.1)	5.7 (±1.2)	0.86
Discharge preparation	5.6 (±1.4)	5.5 (±1.5)	0.67

Table 4: Perceived style of decision-making process

	Before bedside-handover group	After bedside-handover group	р
Paternalistic	34 (73.9%)	28 (70.0%)	0.50
Shared	9 (19.6%)	11 (27.5%)	
Informed	3 (6.5%)	1 (2.5%)	

Table 5: Side-effects of nursing bedside handover

	Before bedside-handover group	After bedside-handover group	р
1. Perceived confidentiality	2.1 (±2.0)	2.9 (±2.4)	0.10
2. Patients felt disturbed by shift change	8.0 (±2.8)	8.6 (±2.5)	0.32
3. Feeling uncomfortable when fellow patient heard about patient's	7.2 (±3.3)	7.1 (±3.4)	0.85
disease/care			
4. Patient received same information from nurse and doctor	3.5 (±3.1)	3.7 (±3.2)	0.80

Figure 1: Flowchart of nursing bedside-handover



Regarding specific nursing tasks, there was only a trend to be more involved in the decisionmaking process regarding daily routine, hygiene, and excretion. It might be possible that patients who experienced NBH perceived a greater involvement in decision-making without being able to accurately describe which parts of their care they were involved in after NBH implementation.

Marshall, Kitson and Zeitz (2012) described patients' view of patient-centred care, indicating that patients did not distinguish between staff and care: "The concept of 'care' is seen as something done by the staff to the patient, with patients seeing the staff and care as synonymous rather than separate" (p. 2666). Being part of the care process due to being present during nursing handover might lead to the patients' overall impression of having a voice regarding their care without being able to specify in which part of their care they were involved. Nursing care is seen as an entity and patients have difficulties providing a detailed description of what nursing is.

Even though some nurses' feared NBH related side-effects, data in this study did not show any statistically significant side-effects. However, there is a trend that patients perceived confidential issues as more critical after implementation of NBH than before. On a 10point Likert-scale, patients' rated the compliance with confidentiality issues as 2.1 before and 2.9 after implementing NBH (p=0.1). Even though this change is nearly statistically significant it is questionable if it is clinically relevant. There are few reports about patients' concern about privacy (McMurray, et al., 2011; Sand-Jecklin & Sherman, 2013) with most reports emphasizing patients' positive attitudes towards NBH.

Conclusion

There is no effect regarding patients' perception of shared decision-making three months after implementing NBH. However, a trend towards a more patient-centred approach in nursing care could be observed. Evaluation of the implementation of NBH after a longer time period (more than three months) seems appropriate, thus, giving nurses the opportunity to become familiar and confident with the concept and procedure of NBH.

Limitations

There are several limitations to consider. First, this study was a non-experimental study without using a control-group. It is unclear if the implementation of NBH has a true effect or if other factors, not assessed, significantly influenced the results of this study. In addition, the sample size was small, which leads to difficulties in detecting small, statistically significant changes.

We observed a high percentage of missing data within the questionnaire. It might be possible that the questionnaire was not appropriate for this specific study population consisting of patients with a higher age and diseases that could negatively affect cognitive functioning. We contacted the original author of the instrument and asked if similar percentages of missing data were observed in her study. She was not able to confirm this result. The high percentages of missing data, with a consecutive exclusion rate of 35.7%, might distort the results to the disadvantage of the underlying hypothesis.

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