

Barriers and Facilitators to Implement Function-Focused Care in Hospitals: a mixed methods study

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Status: Final version
Date: 01-07-2016
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Research Institute: UMC Utrecht, The Netherlands
Journal: Journal of Clinical Nursing, word count: 3,000-8,000
Reference style: Vancouver
Criteria for transparency: Good Reporting of A Mixed Methods Study (GRAMMS)
Words: 3684
Words English abstract: 293
Words Dutch abstract: 299

INTRODUCTION

Body changes due to normal ageing or a disabling disease can cause functional decline in activities of daily living (ADL).¹ Functional decline can be defined as a new loss of independence in self-care activities or as deterioration in self-care skills (e.g. bathing, dressing or using the toilet).² When patients are admitted to a hospital, deprivation of the remaining functions causing further ADL-independency is often seen.^{3, 4} Geriatric patients and patients after stroke are at an especially high risk of functional decline.^{1, 4-6}

Factors related to hospitalization-associated functional decline are bedrest orders, decreased patient participation in ADLs, mobility restricting devices and social deprivation.⁷⁻⁹ The consequences of functional decline include long-term loss of independence², prolonged hospitalization¹⁰, prolonged costly rehabilitative care¹⁰, increased rates of long-term admission, social isolation and reduced quality of life¹¹. In addition, functional decline is associated with increased morbidity and mortality rates.¹²

In the last decade, there has been wide interest in the role of nurses in preventing functional decline. Studies which examined the role of nursing in rehabilitation care, identified the 'conserving role' as one of the most important functions of a nurse.^{1, 13, 14} Nurses are responsible for maintaining function and preventing hospitalization-associated complications. Another study examined the role of nursing in hospitalized older adults.¹⁵ This study concluded that nurses play an important role in preventing functional decline because of their ability to observe and guide patients and their overall view. The current focus of nursing care is on meeting patients' needs through task completion rather than optimizing underlying physical capability.¹⁶ This current focus may contribute to functional decline in patients.^{16, 17}

Literature shows that approaches like Function-Focused Care (FFC), where physical activity is incorporated into routine care activities, are more effective in preventing functional decline than non-integrated approaches.¹⁷ FFC is a promising approach of care in which nurses help patients engage in ADL and physical activity, with the goal of preventing avoidable functional decline.¹⁶ Examples of FFC include walking with the patient to the toilet instead of giving him a urinal or using verbal cues during bathing. Prior research provided evidence for the effectiveness of FFC in both the acute care setting and the assisted living setting.^{11, 17-21}

To be able to successfully implement FFC in nursing care, a behavioural change among nurses is needed. The FFC approach was developed using a Social Ecological Model.²² This model focuses on persuading individuals to change with respect to interpersonal (e.g. knowledge, attitudes, beliefs), intrapersonal (e.g. peers, social networks), environmental and policy factors.²³ Furthermore, knowledge about barriers and facilitators to implementation of FFC is important to enhance the implementation success.²⁴ FFC has already been

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implemented in several long-term settings. Studies which examined barriers and facilitators to implementation of new care approaches in these settings identified things such as: a lack of fit between the intervention and culture of care^{20, 25, 26}, workload concerns²⁷, inadequate staffing²⁵⁻²⁷ and a lack of support²⁸. In addition, there are also some studies that examined factors that may influence the implementation but which are not specifically seen as barrier or facilitator. These studies identified the following influencing factors: self-efficacy, outcome expectations, theoretical knowledge^{29, 30}, job satisfaction³¹ and team learning processes³².

PROBLEM STATEMENT

To be able to tailor the implementation of FFC, identification of pre-implementation barriers, facilitators and influencing factors within current nursing care is required. Although there is existing knowledge in the long-term setting, there is limited research that has been published examining barriers, facilitators and influencing factors for the implementation of FFC in the acute care setting, i.e. hospital care. More research into the acute care setting is desirable because barriers, facilitators and influencing factors could differ due to the differences between the complexity of patient care, length of stay at the setting, educational level of health care providers and organizational policy and culture.

AIM

The aim of the study was to identify barriers, facilitators and influencing factors to implementation of FFC in current daily nursing care for stroke patients and geriatric patients of 65 years and older admitted to a hospital who needed help with mobility, bathing and/or dressing. Insight into barriers, facilitators and influencing factors provides guidance in developing strategies to enhance successful implementation of FFC in hospitals.

METHODS

Study design

A sequential, quantitative-dominant (QUAN → qual) explanatory design³³ was adopted, using structured observations, a survey which included several questionnaires and focus groups. This design offered the opportunity to refine and interpret the quantitative data by qualitative data.³⁴ Data collection took place between February and July 2016.

Setting and study population

The study was conducted at the neurology and geriatric wards of an academic and a non-academic hospital in the Netherlands. The study population were nurses providing daily nursing care for stroke patients and geriatric patients of 65 years and older admitted to a hospital who needed help with mobility, bathing and/or dressing. Nurses were included if they had worked on the ward for at least one month and for at least one day a week. They were excluded if they were flex workers.

Selection of nurses for the observations and focus groups followed a convenience sample. For the survey, all nurses who met the eligibility criteria were asked to participate.

Data collection

Nursing Care Behaviour

To describe current nursing care, an adapted and translated version of the Restorative Care Behaviour Checklist (RCBC)³⁵ to the Dutch context was used. The RCBC measures the degree to which nurses improve physical activity in patients during eleven care-related activities with each activity scored as performed, not performed or not applicable. The original RCBC showed evidence for the reliability with an internal consistency of 0.77.³⁵ Validity was based on a good fit of the items to the measured model.³⁵ Face validity of the adapted RCBC was based on critical review by several experts in the field.

Barriers and facilitators

Insight into the main barriers and facilitators was conducted, using the 27-item Barriers and Facilitators Assessment Instrument (BFAI)²⁴. The BFAI classifies barriers and facilitators into four categories, namely caregiver-, patient-, innovation- and context characteristics. Nurses needed to rate their level of agreement from 1 (strongly disagree) to 5 (strongly agree). A lower score indicated a barrier to implementation of FFC, whereas a higher score indicated a facilitator. Cronbach's alpha showed a reliability which differs from 0.63 to 0.68.²⁴

Influencing factors

Nurses' confidence in stimulating physical activity in patients was measured using the 10-item Nurses' Self-efficacy scale (NSE)^{29, 30}. Nurses were asked to rate their degree of confidence in their ability to stimulate physical activity on a scale of 1 (no confidence) to 5

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(very confident). Prior research provided evidence for internal consistency from 0.80 to 0.91 and validity based on hypothesis testing and contrasted groups.^{29, 30}

The perceived benefits from the perspectives of nurses were measured by the 9-item Nurses' Outcome Expectations scale (NOE)^{29, 30}. Nurses were asked to state if they agreed or disagreed with statements on a scale of 1 (strongly disagree) to 5 (strongly agree). The NOE showed evidence for internal consistency from 0.87 to 0.93 and validity based on confirmatory factor analysis.^{29, 30}

The NSE and NOE were both translated by two researchers and the translations were discussed until consensus was reached.

To gain insight into team learning activities, the Team Learning Questionnaire (TLQ)³² was used. The team learning activities are divided into five categories: gathering production-oriented information, gathering development-oriented information, processing information, storage and retrieval of production-oriented information and storage and retrieval of development-oriented information. Nurses were asked to indicate how often each statement occurred within the team from 1 (never) to 5 (always).

Nurses' knowledge of FFC was examined by a 10-item theoretical multiple choice test, with each item scored as correct or incorrect. The knowledge test was based on the Theoretical Testing of Restorative Care Activities Questionnaire²⁹. Face validity has been determined through reviews of the questionnaire by several nurses and experts in the field.

For all questionnaires described above, a lower score indicated a negative influencing factor to implementation of FFC, whereas a higher score indicated a positive influencing factor.

Nurses' opinions

Nurses' opinions regarding pre-implementation barriers, facilitators and influencing factors within current care were obtained from focus groups: one focus group with neurology nurses, another focus group with geriatric nurses and a third focus group with neurology- and geriatric nurses. This last focus group not only offered the opportunity to gain insight into nurses' opinions regarding barriers, facilitators and influencing factors within current care, but it also offered the opportunity to explain differences between the wards. The topic guide of the focus groups was based on the findings of the observations and questionnaires.

Procedure

The researcher (SE) contacted the participating wards to schedule the observations. Before the start of each observation, the nurse was informed about the observation and asked for informed consent. This was also applied for patients who were observed by observing the nurse. In order to reduce social desirability bias, the nurse was not told that the observation would specifically focus on stimulating physical activity in patients. Each observation took about 30 minutes. Field notes were written during and immediately after the observations. Van Eijck, Barriers, facilitators and influencing factors implementing FFC in hospitals, 01-07-2016

Once the observations were completed, the survey was distributed. Each nurse received an e-mail with a link to the online survey. Nurses could also fill out the survey on paper. In order to increase the response rate, nurses received biweekly e-mails with the current response rate. In addition, the researchers (SE, CV) visited the participating wards to encourage nurses to complete the survey. A reminder to complete the survey was sent two weeks after the initial survey mailing.

For the focus group interviews, the researcher (SE) contacted the wards to schedule the focus group interviews. Each focus group interview was led by one researcher (JM) and facilitated by an observer (CV) and an assistant (SE). Focus group interviews lasted 60 to 90 minutes and were audio-taped.

Data analysis

The structured observations were analysed using Microsoft® Office Excel 2013. For the survey data, descriptive analysis was performed regarding demographics and outcome measures using IBM SPSS 22. Percentages were reported for categorical measures and means and standard deviations were reported for continuous measures. Differences between the neurology and geriatric wards regarding the scores on the observation checklist and questionnaires were assessed by Mann-Whitney U-tests because of the smaller sample size and not normally distributed data. A $p < 0.05$ level of significance was used. The focus groups were transcribed verbatim and anonymised by the executive researcher (SE). A second researcher checked the accuracy of the transcribed data (CV). The analysis consisted of three phases: open coding, axial coding and selective coding. The executive researcher analysed all focus groups, using QRS International's NVivo 10 Software. A second researcher independently coded one of the three focus groups. During research meetings consensus between the researchers (SE, EK, CV and JM) was reached regarding the definitive codes and categories.

RESULTS

Nurse characteristics

A total of 12 nurses were observed during care related activities. Most of them were female (75%) and about half were registered nurses (58.3%). Half of the observed nurses worked on a neurology ward.

A total of 65 nurses completed the questionnaires. A response rate of 43.9% was achieved. The majority of the nurses were female (90.8%). The mean age was 35.03 (SD = 12.60) and on average the nurses had 12.88 (SD = 11.60) years of work experience. Forty-four nurses (67.7%) worked on a neurology ward and twenty-one nurses (32.3%) worked on a geriatric ward. Baseline characteristics were consistent throughout the geriatric and neurologic wards. Table 1 presents the baseline characteristics of the nurses.

In total, 14 nurses participated in one of the three focus groups. The group size varied between four and seven nurses. The majority of the nurses were women (85.7%). Eight of the fourteen nurses worked on a neurology ward. Age ranged between 24 and 60 years.

[Table 1]

Nursing Care Behaviour

During the observations, a mean of 6.25 (range: 5 – 8) care-related activities were observed. Nurses stimulated physical activity in patients in 57.7% (range: 16.7 – 83.3%) of the observed activities. Nurses working on a neurology ward stimulated physical activity more often (mean: 67.8%, range: 40.0 – 83.3%) than nurses working on a geriatric ward (mean: 47.8%, range 16.7 – 66.7%). However, this difference was not statistically different ($p = 0.197$).

Barriers and facilitators

Table 2 presents the results of the BFAI. The greatest barriers that emerged from the BFAI were: 1) knowledge and motivation; 2) education; and 3) involvement. The greatest facilitators were: 1) life- and working style; 2) attitude and role perception; and 3) compatibility. The three greatest barriers were considered 'care provider characteristics'. As shown in table 3, there were significant differences between the neurology and geriatric wards regarding the categories 'innovation characteristics' ($p = 0.001$) and 'care provider characteristics' ($p = 0.008$).

[Table 2]

[Table 3]

Influencing factors

Table 4 shows the scores of the influencing factors. The mean self-efficacy for functional

skills was 4.29 (SD = 0.55), whereby nurses' confidence in the ability to stimulate physical activity in the face of common challenges was less (3.31, SD = 0.71). For outcome expectations, the mean score was 4.22 (SD = 0.65). The mean scores on the subscales of the TLQ differed from 2.83 (SD = 0.72) to 3.75 (SD = 0.62), which resulted in an overall score of 3.30 (SD = 0.49). Nurses had 6.92 (SD = 1.37) of 10 correct answers on the knowledge test. As shown in table 5, there were no significant differences regarding the influencing factors between the neurology and geriatric wards with exception of the score on the TLQ ($p = 0.014$). Both wards had a team learning culture that is characterized by gathering development-oriented information and storage and retrieval of production-oriented observation, however this type of team learning is more manifest in the geriatric wards.

[Table 4]

[Table 5]

Nurses' opinions

An important theme that was discussed throughout the focus groups was nurses' opinions regarding stimulating physical activity in patients. Nurses in all focus group interviews mentioned that it is important to stimulate physical activity in patients, although, neurology- and geriatric nurses had a different opinion on what is meant by stimulating physical activity in patients. Neurology nurses indicated that stimulating physical activity is incorporated in routine care activities, whereas geriatric nurses see stimulating physical activity as added activity to routine care.

"For example, encourage the patient to use the affected side. Let them do little things by themselves." (Neurology nurse)

"I don't know what else I could do to stimulate physical activity. Walking a bit, sitting in a chair and getting in and out of bed is all I can think of." (Geriatric nurse)

There was a discrepancy found between what nurses said in the focus groups about the importance of stimulating physical activity in patients and what had been seen during the observations. According to the nurses, this discrepancy was caused by unfavourable observation moments. The researcher only observed nurses during morning care. Furthermore, nurses believed that their positive perception might be higher than reality.

An important barrier that emerged from the focus groups was the low priority given to stimulating physical activity in patients. Although nurses say that stimulating activity is very important, they do not give it the highest priority. Writing care records and fulfilling score cards, for example, have a higher priority.

“...patient care is no longer a priority. No, it is more important my patient files are in order”

“Yes, with lists, other stuff, really... Our job is, not to exaggerate, but 75 percent administration and only 25 percent of patient care.”

Furthermore, nurses mentioned barriers such as a high workload, insufficient training and a lack of space and assistive devices. In contrast to the findings of the BFAI, nurses mentioned that ‘easily falling back into old habits’ was also an important barrier.

“but in the moment the workload increases, one falls back into old habits”

The most important facilitators that emerged from the focus groups were the multidisciplinary collaboration and the increased job satisfaction when stimulating physical activity in patients.

“It (multidisciplinary collaboration) is good. It really works out well together.”

“Now that I am aware, I noticed I do it with more pleasure.”

Nurses mentioned that the presumed wish of a patient and nurses’ estimation of what a patient is capable of doing are two important influencing factors regarding the extent to which nurses stimulate physical activity in patients.

“We regularly get people from nursing homes on our ward and they are fine being helped.”

“And sometimes one estimates a patient is able to get out of bed, where another would think the patient is too ill to do so.”

DISCUSSION

This study identified barriers, facilitators and influencing factors to implementation of FFC in daily nursing care in hospitals. The findings indicate that 'care giver characteristics' including knowledge and motivation, education and involvement are important barriers. Further dialog with nurses showed that contrary to what you might expect based on what nurses say, stimulating physical activity does not have the highest priority in nursing care. Important facilitators that are found in this study are life- and working style, attitude and role perception and compatibility. Similarly, the high self-efficacy, strong outcome expectations and current knowledge about stimulating physical activity are positive influencing factors. Factors such as patients' wishes regarding physical activity and nurses' estimation of patients' capabilities could both positively and negatively influence the extent to which physical activity is stimulated.

Most barriers identified in this study are in line with studies examining barriers to implementation of interventions in the Dutch healthcare context^{24, 36} However, the most important barriers found in our study, such as knowledge, motivation and involvement, contrasted with prior research which specifically focused on barriers regarding implementation of FFC. A major barrier that emerged from several studies^{20, 28} was the fear of infringing on patients' rights and the fear that nurses might be accused of 'abusing a patient' by stimulating patient participation in personal care rather than performing the activity for the patient. This barrier could arise due the "blame and claim" culture in the United States.³⁷ This culture plays a far less prominent role in the Netherlands. Therefore, this barrier is less significant to implementation of FFC in the Dutch healthcare context. Nurses in our study reported that they feel pressure from families who tended to assume a patient needed help with all care activities. This pressure is also reported by nurses in several other studies.^{19, 28} Although nurses in our study said that they easily ease the pressure by explaining to families why it is important to stimulate physical activity. Finally, a pilot study which examined the feasibility of FFC on acute trauma nurses identified fear of instability, lack of assistive personnel, fear of dislodging necessary intravenous lines and catheters and patient's or family's refusal as important barriers.¹⁹ Interestingly, none of the previous studies mentioned the low priority nurses give to stimulating physical activity in patients as an important barrier. Further exploration regarding the balance between care- and administrative tasks is needed.

One of the most important facilitators found in our study, namely the improved job satisfaction, was also found in the pilot study¹⁹ which examined the feasibility of FFC. No other studies described facilitators to the implementation of FFC.

The high levels of self-efficacy and outcome expectations found in this study are consistent

with earlier research.^{11, 17, 19, 20} According to the theory of self-efficacy, the high levels of self-efficacy and outcome expectations could improve nurses' adherence to the desired behaviour and thereby positively influence the implementation of FFC.³⁸

Several strengths of this study should be mentioned. This was the first study that used a mixed methods design to identify barriers, facilitators and influencing factors regarding implementation of FFC. The data of the observations and survey were used to develop the topic guide of the focus groups. Final integration of all three data sets strengthened the study outcomes. In addition, this was the first study that examined barriers, facilitators and influencing factors to implementation of FFC in the Dutch healthcare context. This is a strength because the barriers, facilitators and influencing factors differ from the factors found in studies in the United States and therefore other strategies will be necessary to successfully implement FFC in the Dutch healthcare context. The use of translated versions of existing questionnaires regarding influencing factors to implementation of FFC allowed comparison with studies in other healthcare contexts.

There are also some limitations to our study. For the observations and focus groups, a purposeful sample would have been more desirable than a convenience sample to facilitate generalization of the findings. In addition, the scores on the items of the BFAI showed regression to the mean because our study identified pre-implementation barriers, facilitators and influencing factors and so nurses do not yet know exactly what to expect from the innovation.

CONCLUSION

This study examined barriers, facilitators and influencing factors that affect the implementation of FFC in daily nursing care in hospitals. Knowledge and motivation, education, involvement and the lower priority that nurses give to stimulating physical activity in patients are the most important barriers identified. In contrast, increased job satisfaction when stimulating physical activity in patients is an important facilitator. High self-efficacy and outcome expectations have a positive influence on the implementation. Factors such as the presumed wish of a patient and nurses' estimations of what a patient is capable of could both positively and negatively influence the implementation. Knowledge about the barriers, facilitators and influencing factors enables to tailor the implementation and thereby enhance implementation success.

RECOMMENDATIONS

Successful implementation of FFC requires a tailored implementation. Based on the results of this study, implementation strategies should focus on increasing nurses' motivation and

knowledge about FFC and letting them feel more involved with the implementation of the intervention. Furthermore, increasing the levels of self-efficacy and outcome expectations will also positively influence the implementation. There is little known about one of the most important barriers found in this study, namely the lower priority nurses give to stimulating physical activity in patients. Therefore, more research regarding this barrier and what strategies can be applied to overcome this barrier is needed.

REFERENCE LIST

1. Kirkevold M. The Role of Nursing in the Rehabilitation of Acute Stroke Patients: Toward a Unified Theoretical Perspective. *Advances in Nursing Science*. 1997;19(4):55-64.
2. Hoogerduijn JG, Schuurmans MJ, Korevaar JC, Buurman BM, De Rooij SE. Identification of older hospitalised patients at risk for functional decline, a study to compare the predictive values of three screening instruments. *Journal of clinical nursing*. 2010;19(9-10):1219-25.
3. Davies S, Laker S, Ellis L. Promoting autonomy and independence for older people within nursing practice: a literature review. *Journal of Advanced Nursing*. 1997;26(2):408-17.
4. Covinsky KE, Palmer RM, Fortinsky RH, Counsell SR, Stewart AL, Kresevic D, et al. Loss of independence in activities of daily living in older adults hospitalized with medical illnesses: increased vulnerability with age. *Journal of the American Geriatrics Society*. 2003;51(4):451-8.
5. Pedone C, Ercolani S, Catani M, Maggio D, Ruggiero C, Quartesan R, et al. Elderly Patients With Cognitive Impairment Have a High Risk for Functional Decline During Hospitalization: The GIFA Study. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences*. 2005;60(12):1576-80.
6. Landefeld CS, Palmer RM, Kresevic DM, Fortinsky RH, Kowal J. A Randomized Trial of Care in a Hospital Medical Unit Especially Designed to Improve the Functional Outcomes of Acutely Ill Older Patients. *New England Journal of Medicine*. 1995;332(20):1338-44.
7. Brown CJ, Redden DT, Flood KL, Allman RM. The underrecognized epidemic of low mobility during hospitalization of older adults. *Journal of the American Geriatrics Society*. 2009;57(9):1660-5.
8. Palmer RM. Acute hospital care of the elderly: minimizing the risk of functional decline. *Cleveland Clinic Journal of Medicine*. 1995;62(2):117-28.
9. Graf C. Functional Decline in Hospitalized Older Adults: It's often a consequence of hospitalization, but it doesn't have to be. *AJN The American Journal of Nursing*. 2006;106(1):58-67.
10. Kortebein P. Rehabilitation for hospital-associated deconditioning. *American Journal of Physical Medicine & Rehabilitation*. 2009;88(1):66-77.
11. Resnick B, Galik E, Gruber-Baldini A, Zimmerman S. Testing the Effect of Function-Focused Care in Assisted Living. *Journal of the American Geriatrics Society*. 2011;59(12):2233-40.
12. Rozzini R, Sabatini T, Cassinadri A, Boffelli S, Ferri M, Barbisoni P, et al. Relationship between functional loss before hospital admission and mortality in elderly persons with medical illness. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences*. 2005;60(9):1180-3.

13. Long AF, Kneafsey R, Ryan J, Berry J. The role of the nurse within the multi-professional rehabilitation team. *Journal of Advanced Nursing*. 2002;37(1):70-8.
 14. Pryor J, Smith C. A framework for the role of Registered Nurses in the specialty practice of rehabilitation nursing in Australia. *Journal of Advanced Nursing*. 2002;39(3):249-57.
 15. King BD. Functional decline in hospitalized elders. *Medsurg Nursing*. 2006;15(5):265.
 16. Resnick B, Galik E, Boltz M. Function Focused Care Approaches: Literature Review of Progress and Future Possibilities. *Journal of the American Medical Directors Association*. 2013;14(5):313-8.
 17. Resnick B, Galik E, Enders H, Sobol K, Hammersla M, Dustin I, et al. Pilot Testing of Function-Focused Care for Acute Care Intervention. *Journal of Nursing Care Quality*. 2011;26(2):169-77.
 18. Boltz M, Resnick B, Capezuti E, Shuluk J, Secic M. Functional Decline in Hospitalized Older Adults: Can Nursing Make a Difference? *Geriatric Nursing*. 2012;33(4):272-9.
 19. Burket TL, Hippensteel D, Penrod J, Resnick B. Pilot testing of the function focused care intervention on an acute care trauma unit. *Geriatric Nursing*. 2013;34(3):241-6.
 20. Resnick B, Gruber-Baldini AL, Galik E, Pretzer-Aboff I, Russ K, Hebel JR, et al. Changing the philosophy of care in long-term care: Testing of the restorative care intervention. *The gerontologist*. 2009;49(2):175-84.
 21. Resnick B, Galik E, Gruber-Baldini A, Zimmerman S. Understanding Dissemination and Implementation of a New Intervention in Assisted Living Settings The Case of Function-Focused Care. *Journal of Applied Gerontology*. 2013;32(3):280-301.
 22. Bandura A. *Social foundations of thought and action: A social cognitive theory*: Prentice-Hall, Inc; 1986.
 23. Gregson J, Foerster SB, Orr R, Jones L, Benedict J, Clarke B, et al. System, Environmental, and Policy Changes: Using the Social-Ecological Model as a Framework for Evaluating Nutrition Education and Social Marketing Programs with Low-Income Audiences. *Journal of Nutrition Education*. 2001;33, Supplement 1:S4-S15.
 24. Peters M, Harmsen M, Laruant M, Wensing M. Ruimte voor verandering? Knelpunten en mogelijkheden voor verandering in de patiëntenzorg [Room for improvement? Barriers to and facilitators for improvement of patient care]. Nijmegen: Centre for Quality of Care Research (WOK), Radboud University Nijmegen Medical Centre. 2002.
 25. Beck C, Heacock P, Mercer SO, Doan R, O'Sullivan PS, Stevenson JG, et al. Sustaining a Best-Care Practice in a Nursing Home. *Journal For Healthcare Quality* July/August. 2005;27(4):5-16.
 26. Schnelle JF, Alessi CA, Simmons SF, Al-Samarrai NR, Beck JC, Ouslander JG. *Translating Clinical Research into Practice: A Randomized Controlled Trial of Exercise and*
- Van Eijck, Barriers, facilitators and influencing factors implementing FFC in hospitals, 01-07-2016

Incontinence Care with Nursing Home Residents. *Journal of the American Geriatrics Society*. 2002;50(9):1476-83.

27. Lekan-Rutledge D, Palmer MH, Belyea M. In Their Own Words: Nursing Assistants' Perceptions of Barriers to Implementation of Prompted Voiding in Long-Term Care. *The Gerontologist*. 1998;38(3):370-8.

28. Resnick B, Petzer-Aboff I, Galik E, Russ K, Cayo J, Simpson M, et al. Barriers and benefits to implementing a restorative care intervention in nursing homes. *Journal of the American Medical Directors Association*. 2008;9(2):102-8.

29. Resnick B, Simpson M. Restorative care nursing activities: pilot testing self-efficacy and outcome expectation measures. *Geriatric Nursing*. 2003;24(2):82-9.

30. Resnick B, Galik E, Pretzer-Aboff I, Rogers V, Gruber-Baldini AL. Testing the Reliability and Validity of Self-Efficacy and Outcome Expectations of Restorative Care Performed by Nursing Assistants. *Journal of nursing care quality*. 2008;23(2):162-9.

31. Flannery K, Resnick B, Galik E, Lipscomb J, McPhaul K. Reliability and Validity Assessment of the Job Attitude Scale. *Geriatric Nursing*. 2012;33(6):465-72.

32. Timmermans O, Van Linge R, Van Petegem P, Van Rompaey B, Denekens J. Team learning and innovation in nursing, a review of the literature. *Nurse Education Today*. 2012;32(1):65-70.

33. Polit DF, Beck CT. *Nursing research: Generating and assessing evidence for nursing practice*: Lippincott Williams & Wilkins; 2008.

34. Richards DA, Hallberg IR. *Complex interventions in health: An overview of research methods*: Routledge; 2015.

35. Resnick B, Rogers V, Galik E, Gruber-Baldini AL. Measuring Restorative Care Provided by Nursing Assistants: Reliability and Validity of the Restorative Care Behavior Checklist. *Nursing Research*. 2007;56(6):387-98.

36. Van Os-Medendorp H, Eland-De Kok P, Van Linge R, Bruijnzeel-Koomen C, Grypdonck M, Ros W. The tailored implementation of the nursing programme 'Coping with itch'. *Journal of Clinical Nursing*. 2008;17(11):1460-70.

37. Vince R, Saleem T. The Impact of Caution and Blame on Organizational Learning. *Management Learning*. 2004;35(2):133-54.

38. Bandura A. *Self-efficacy: the exercise of control*. New York: W.H. Freeman and Company; 1997.

TABLES AND FIGURES

Table 1 Baseline characteristics survey (N=65)

Baseline characteristics	
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Gender, n (%)	
Female	59 (90.8)
Male	6 (9.2)
Hospital, n (%)	
Academic	25 (38.5)
Non-academic	40 (61.5)
Ward, n (%)	
Neurology	44 (67.7)
Geriatric	21 (32.3)
Function, n (%)	
Registered nurse	52 (80.0)
Nursing student	12 (18.5)
Other	1 (1.5)
Educational level, n (%)	
Inservice A Verpleegkundige	10 (15.4)
MBO Niveau 4	14 (21.5)
HBO Niveau 5	24 (36.9)
Master	1 (1.5)
Other	2 (3.1)
Vervolgopleiding n (%)	
Neurology	11 (16.9)
Neurology and Medium Care	6 (9.2)
Neurology and other	2 (3.1)
Geriatrics	7 (10.8)
Other	3 (4.6)
None	22 (33.8)
Age, M (SD)	35.03 (12.60)
Years of experience M (SD)	12.88 (11.60)

Table 2 Barriers and Facilitators Assessment Instrument (N=62)

BFAI	Mean (SD)		
	Total (N = 62)	Neurology wards (N =41)	Geriatric wards (N=21)
Innovation characteristics			
Specificity, flexibility	3.45 (0.57)	3.30 (0.46)	3.74 (0.66)
Didactic benefit	3.29 (0.64)	3.15 (0.57)	3.57 (0.67)
Time investment	2.85 (0.67)	2.98 (0.42)	2.62 (0.97)
Compatibility	3.48 (0.70)	3.37 (0.49)	3.71 (0.96)
Attractiveness	3.21 (0.45)	3.07 (0.35)	3.48 (0.51)
Care provider characteristics			
Involvement	2.60 (1.02)	2.52 (1.02)	2.76 (1.02)
Knowledge, motivation	2.02 (0.88)	1.88 (0.81)	2.29 (0.96)
Lifestyle, working style	3.90 (0.82)	3.98 (0.76)	3.76 (0.94)
Doubts about innovation	3.26 (0.51)	3.15 (0.42)	3.48 (0.60)
Attitude, role perception	3.52 (0.48)	3.44 (0.37)	3.69 (0.62)
Group norms, socialisation	3.20 (0.52)	3.07 (0.50)	3.46 (0.49)
Education	2.42 (1.14)	2.27 (1.12)	2.76 (1.14)
Patient characteristics			
Motivation to change	3.37 (0.63)	3.29 (0.60)	3.52 (0.68)
Ethnicity	2.81 (0.72)	2.88 (0.51)	2.67 (1.02)
Health status	3.04 (0.46)	3.04 (0.28)	3.05 (0.69)
Economical status	3.06 (0.72)	3.07 (0.35)	3.05 (1.16)
Age	3.19 (0.76)	3.20 (0.46)	3.19 (1.17)
Context characteristics			
Legalisation	3.19 (0.57)	3.20 (0.51)	3.19 (0.68)
Supportive staff	2.71 (0.73)	2.85 (0.73)	2.43 (0.68)
Facilities	3.00 (0.85)	3.00 (0.77)	3.00 (1.00)
Building	2.77 (0.78)	2.71 (0.64)	2.90 (1.00)

Table 3 Barriers and Facilitators Assessment Instrument: Neurology versus Geriatrics

BFAI	Mean (SD)		Mann- Whitney U test
	Neurology (N= 41)	Geriatrics (N= 21)	
Total	3.03 (0.24)	3.20 (0.36)	U = 318.0; p = 0.094
Innovation	3.20 (0.30)	3.48 (0.38)	U = 217.0; p = 0.001*
Care provider	2.95 (0.37)	3.23 (0.43)	U = 253.5; p = 0.008*
Patient	3.08 (0.21)	3.09 (0.59)	U = 426.0; p = 0.944
Context	2.94 (0.44)	2.88 (0.57)	U = 399.0; p = 0.628

Abbreviation: BFAI, Barriers and Facilitators Assessment Instrument

* p < 0.01

Table 4 Influencing factors

Outcomes	Mean (SD)
Self-efficacy	3.90 (0.53)
Functional skills	4.29 (0.55)
Challenges	3.31 (0.71)
Outcome Expectation	4.22 (0.65)
Team Learning Questionnaire	3.30 (0.49)
GPI	2.83 (0.72)
GDI	3.12 (0.61)
PI	3.45 (0.54)
SRPI	3.75 (0.62)
SRDI	3.22 (0.57)
Knowledge test	6.92 (1.37)

Abbreviations: GPI, gathering production-oriented information; GDI, gathering development-oriented information; PI, processing information; SRPI, storage and retrieval of production-oriented information; SRDI, storage and retrieval of development-oriented information.

Table 5 Influencing factors: Neurology versus Geriatrics

Outcomes	Mean (SD)		Mann- Whitney U test
	Neurology (N= 42)	Geriatrics (N= 21)	
Self-efficacy	3.97 (0.51)	3.75 (0.55)	U = 349.5; p = 0.114
Functional skills	4.36 (0.58)	4.17 (0.48)	U = 367.5; p = 0.172
Challenges	3.40 (0.66)	3.12 (0.77)	U = 359.0; p = 0.145
Outcome Expectation	4.23 (0.73)	4.20 (0.47)	U = 409.0; p = 0.455
TLQ	3.21 (0.52)	3.49 (0.36)	U = 273.0; p = 0.014*
GPI	2.73 (0.76)	3.02 (0.60)	U = 324.0; p = 0.086
GDI	3.09 (0.64)	3.18 (0.56)	U = 355.5; p = 0.209
PI	3.35 (0.57)	3.63 (0.43)	U = 302.0; p = 0.042*
SRPI	3.60 (0.63)	4.05 (0.50)	U = 248.0; p = 0.004**
SRDI	3.12 (0.59)	3.44 (0.49)	U = 292.5; p = 0.028*
Knowledge test	6.98 (1.20)	6.81 (1.69)	U = 439.5; p = 0.982

Abbreviations: TLQ, team learning questionnaire; GPI, gathering production-oriented information; GDI, gathering development-oriented information; PI, processing information; SRPI, storage and retrieval of production-oriented information; SRDI, storage and retrieval of development-oriented information.

*p < 0.05

**p < 0.01

ABSTRACT

Title: Barriers and facilitators to implement Function- Focused Care in hospitals: a mixed methods study

Background: Stroke and geriatric patients are at high risk for functional decline during hospital admission. Functional decline is associated with prolonged hospitalization, reduced quality of life and increased morbidity and mortality. Function- Focused Care (FFC) is a promising approach of care in which nurses help patients engage in activities in daily living and physical activity, with the goal of preventing avoidable functional decline. Although there is existing knowledge of barriers, facilitators and influencing factors to implementation of FFC in the long- term setting, there is limited research in hospitals.

Objective: The aim of the study was to identify barriers, facilitators and influencing factors to implementation of FFC in current daily nursing care in hospitals.

Methods: A sequential, explanatory mixed methods design was adopted, using structured observations, questionnaires and focus groups.

Results: Important barriers to implementation are knowledge and motivation, education, involvement and the lower priority nurses that nurses give to stimulating physical activity in patients. Increased job satisfaction is an important facilitator. Similarly, high levels of self-efficacy and outcome expectations positively influence the implementation. Factors such as patients' wishes regarding physical activity and nurses' estimation of patients' capabilities could both positively and negatively influence the implementation.

Conclusion: To enhance successful implementation of FFC in hospitals, implementation strategies should focus on increasing nurses' motivation and knowledge about FFC and letting them feel more involved with the innovation. Further increase the levels of self-efficacy and outcome expectations will also positively affect the implementation.

Recommendations: More research to the lower priority nurses give to stimulating physical activity in patients and what strategies can be applied to overcome this barrier is needed.

Key words: Function- Focused care, functional decline, barriers, facilitators, hospital

SAMENVATTING

Titel: Bevorderende, belemmerende en beïnvloedende factoren bij de implementatie van Function- Focused Care in ziekenhuizen: een mixed- method studie

Achtergrond: CVA- en geriatrische patiënten hebben een verhoogd risico op vermijdbaar functieverlies gedurende een ziekenhuisopname. Functieverlies is geassocieerd met een langere ziekenhuisopname, een verminderde kwaliteit van leven en een verhoogde mortaliteit. Function- Focused Care (FFC) is een interventie waarbij verpleegkundigen de patiënt stimuleren tot actieve deelname aan de algemene dagelijkse levensverrichtingen met als doel vermijdbaar functieverlies te voorkomen. Veel onderzoek is gedaan naar belemmerende, bevorderende en beïnvloedende factoren bij de implementatie van FFC in verpleeghuizen. Echter is er weinig onderzoek naar de implementatie in ziekenhuizen.

Doel: Het identificeren van belemmerende, bevorderende en beïnvloedende factoren bij de implementatie van FFC in de huidige dagelijkse zorgverlening in ziekenhuizen.

Methode: Een mixed- method studie met gestructureerde observaties, vragenlijsten en focusgroepen.

Resultaten: De belangrijkste belemmerende factoren zijn onvoldoende betrokkenheid, kennis en motivatie en de lage prioriteit die verpleegkundigen geven aan het stimuleren van fysieke activiteit. Werktevredenheid, de hoge uitkomstverwachtingen en hoge mate van het vertrouwen in eigen kunnen zijn bevorderende factoren. De wens van de patiënt met betrekking tot fysieke activiteit en de inschatting van verpleegkundigen van waar een patiënt toe in staat is, kunnen de implementatie zowel positief als negatief beïnvloeden.

Conclusie: Om FFC met succes te implementeren, moeten implementatiestrategieën zich richten op het verhogen van de motivatie en kennis van verpleegkundigen en het meer betrokken laten voelen van verpleegkundigen bij de innovatie. Het verder verhogen van de uitkomstverwachtingen en de mate van vertrouwen in eigen kunnen zullen de implementatie ook positief beïnvloeden.

Aanbevelingen: Meer onderzoek naar de lage prioriteit die verpleegkundigen geven aan het stimuleren van fysieke activiteit en welke strategieën kunnen worden ingezet om deze belemmerende factor te ondervangen, is nodig.

Sleutelwoorden: Functieverlies, Function- Focused Care, ziekenhuis, belemmerende factor, bevorderende factor