

***Feasibility of the nurse nutrition intervention
'Nurses For Food' to improve nutritional intake
in hospitalized patients***

Master thesis Nursing Science, program in Clinical Health Sciences, UMC Utrecht

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ABSTRACT

Feasibility of 'Nurses For Food' to improve nutritional intake

Background: An evidence-based nurse nutrition intervention 'Nurses for Food' (NFF) focussed on the nurse and the patient, has been developed to improve nutritional care and patient empowerment in hospitals. For nurses, the included elements of intervention consisted of an e-learning, work instructions, start- and follow-up meetings, and an infographic. For the patients, a Self-Evaluation of Food Intake (SEFI)[®] card and an infographic were provided. Here, the feasibility of NFF was evaluated.

Aim: To evaluate the feasibility of a nurse nutrition intervention 'NFF' in the hospital setting regarding reach and recruitment, dose delivered, fidelity of delivery, fidelity of treatment, acceptability of nurses and patients with (a risk for) malnutrition.

Method: A multi-centred quantitative feasibility study was performed wherein NFF was delivered in addition to usual care during the intervention period of five months.

Due to the COVID-19 pandemic, this feasibility study was temporarily paused. An alternative analysis of data was performed based on the research question 'What is the motivation and self-reported knowledge regarding nutritional care from nurses and nurse assistants in an academic hospital in the period before implementation of the NFF study?' An online survey that focused on different aspects of nutritional care in hospitals was sent to 175 nurses and nurse assistants working in various wards in an academic hospital. When 'nurses' are appointed in this article, this also includes nurse assistants.

Results The survey was completed by 54 nurses (response rate 31%). Regarding the motivation in nutritional care, 84% of nurses indicated that nutritional care is important in their daily work, while a majority (67%) felt they often lack time to provide nutritional care. Additionally, 48% of respondents felt that responsibilities of nurses in nutritional care were unclear. The self-reported knowledge regarding nutritional care is indicated with a median of 7 on a 10-point scale by the respondents.

Conclusions Nurses have an acceptable motivation and a relatively high self-reported knowledge in the treatment of malnourished patients. Yet, malnutrition is not considered as a priority among other duties.

Recommendations A nurse nutrition intervention with a context-oriented implementation strategy that focuses on nurses' behaviour in nutritional care is essential to optimize treatment of malnourished patients and to ensure that nutrition is an important part of the nursing function.

Keywords: Feasibility Studies, Hospitals, Nurses, Patient Participation, nutrition intervention

SAMENVATTING

Haalbaarheid van 'Nurses For Food' om de voedingsinname te verbeteren

Achtergrond: Een evidence-based voedingsinterventie genaamd 'Nurses For Food' (NFF) gericht op de verpleegkundige én de patiënt, is ontwikkeld voor de verbetering van voedingszorg en patiënt empowerment in ziekenhuizen. Voor de verpleegkundigen bestaan de interventie-elementen uit een e-learning, werkinstructies, start- en vervolgbijeenkomsten en een infographic. Voor de patiënten wordt een Self-Evaluation of Food Intake (SEFI)[®] kaart en een infographic verstrekt. Hier wordt de haalbaarheid van NFF beoordeeld.

Doel: Evalueren van de haalbaarheid van NFF aangaande bereik en rekrutering, afgegeven dosis, trouwe levering, trouwe behandeling, aanvaardbaarheid van verpleegkundigen en patiënten met (of risico op) ondervoeding over de interventie in een ziekenhuisomgeving.

Methode: Een multicenter kwantitatief haalbaarheidsonderzoek is uitgevoerd waarbij NFF is geïmplementeerd naast de gebruikelijke zorg, tijdens de interventieperiode van vijf maanden.

Vanwege de COVID-19 pandemie werd deze haalbaarheidsstudie tijdelijk onderbroken. Een alternatieve data analyse werd uitgevoerd op basis van de onderzoeksvraag "Wat is de zelf-gerapporteerde kennis en houding ten aanzien van de voedingszorg van verpleegkundigen en verpleegkundig assistenten in een academisch ziekenhuis in de periode vóór uitvoering van de NFF-studie? Een online enquête, gericht op verschillende aspecten van voedingszorg in ziekenhuizen, werd gestuurd naar 175 verpleegkundigen en verpleegkundig assistenten die op verschillende afdelingen in één academisch ziekenhuis werken. Bij de benoeming van 'verpleegkundigen' in dit artikel zijn verpleegkundig assistenten inbegrepen.

Resultaten: De enquête werd ingevuld door 54 verpleegkundigen (responsiepercentage 31%). Wat de motivatie in voedingszorg betreft, gaf 84% van de verpleegkundigen aan dat voedingszorg belangrijk is in hun dagelijks werk, terwijl een meerderheid (67%) vindt dat ze vaak geen tijd hebben voor voedingszorg. Bovendien is 48% van de respondenten van mening dat de verantwoordelijkheden van verpleegkundigen in voedingszorg niet duidelijk waren. De zelf-gerapporteerde kennis over voedingszorg wordt door de respondenten aangegeven met een mediaan van 7 (IQR 1) op een 10-puntsschaal.

Conclusies Verpleegkundigen hebben een acceptabele motivatie en een relatief hoge zelf-gerapporteerde kennis bij de behandeling van ondervoede patiënten. Toch wordt ondervoeding naast andere taken niet als een prioriteit beschouwd.

Aanbevelingen Een verpleegkundige voedingsinterventie met een context georiënteerde implementatiestrategie die zich richt op het gedrag van verpleegkundigen in de voedingszorg is essentieel om de behandeling van ondervoede patiënten te optimaliseren en ervoor te zorgen dat voeding een belangrijk onderdeel is van de verpleegfunctie.

Master thesis section 1

INTRODUCTION

Malnutrition has regularly been referred to as the 'skeleton in the hospital closet', as it is frequently unnoticed, undiagnosed and untreated(1). Malnutrition is defined as "a disorder of nutritional status resulting from reduced nutritional intake or impaired metabolism"(2). Numerous studies have reported malnutrition rates in hospitalized patients to be between 20-60%(1,3,4) and, if left untreated, the nutritional status even deteriorates in approximately 70% of those patients during their hospital stay(5).

The consequences of malnutrition are complex and potentially lethal(5). Examples are a delay in wound healing, increased risk of infections and a higher risk of adverse health events after discharge(6). As a consequence, malnutrition has repeatedly been associated with negative clinical outcomes such as increased hospital length of stay(7), readmission(8), and mortality(9).

With optimal nutritional care, malnutrition is preventable and reversible in most health care settings(10). Optimal nutritional care includes timely recognition by nurses (on admission) through a validated nutrition screening tool, recording patients' food intake and planning nutritional care(1,11). Once patients are identified as being (or at risk of being) malnourished, they can be treated with additional nutritional support, orally or via enteral or parental treatment(12). This treatment should be introduced and monitored by medical doctors as well as dieticians and nursing staff(13). Patients must also regulate their nutritional intake themselves guided by individualized support(14). However, nutritional care for malnourished patients in the hospital is not optimal. In Dutch hospitals, screening on malnutrition occurs in 88% of the patients, although 56% of the malnourished patients receive timely treatment and achieve the optimal prescribed nutrition intake(15). Some challenges that prevent nurses from providing adequate nutritional care include high workload, tests and examinations patients must undergo, long fasting intervals for such tests, the occurrence of breaks among nursing staff during patient mealtimes and the involvement of various disciplines in nutritional care(11,16,17). These challenges together with insufficient knowledge and training of nurses make nutritional care not always being deliberated as a clinical priority(5,11,17).

Malnutrition is a fundamental element in the "Basic Care Revisited" (BCR) research programme which aims to create awareness and expand knowledge on evidence-based basic nursing care(18,19). In addition, nutritional status is a nurse-sensitive outcome and can therefore be seen as essential to nursing practice, which makes nurses with their holistic caring role pivotal in facilitating nutritional care(20,21). Also in the light of patient participation, nurses can persuade patients to be actively involved in determining and monitoring his/her own nutritional care(22). Patients would actively participate in their own caring process and monitor their own care more closely if they are considered as equal sparring partners in healthcare,

which results in better functional status, performance status, dietary intake and satisfaction(22,23). However, several systematic reviews stated that strong evidence about the effects of nurse nutrition interventions in hospitals to decrease malnutrition is lacking and they highlighted the need for well-designed intervention studies(24,25).

An evidence-based nursing nutrition intervention 'Nurses for Food' (NFF), focussed on the nurse and the patient, has been developed to improve nutritional care and patient empowerment in hospital wards. The complex intervention is based on observations of- and focus groups with- nurses working in the hospital, in-depth interviews with patients in a clinical setting and a systematic review that provides an overview of the existing evidence-based nurse nutrition interventions in hospitals (articles in preparation). NFF was conducted using the six steps of intervention mapping to improve the precision of evidence synthesis and following the Medical Research Council (MRC) framework for developing and evaluating complex interventions(26,27). For nurses, the included elements of intervention consist of an e-learning, work instructions, start- and follow-up meetings and an infographic. For the patients, a Self-Evaluation of Food Intake (SEFI)[®] card and an infographic are provided.

In order to follow the MRC framework, NFF should be evaluated for feasibility to investigate whether the intervention is feasible for large-scale implementation(27). This study tested whether NFF is feasible to integrate into the daily practice of nursing staff and patients with (or being at risk for) malnutrition in hospital wards(27). Therefore this study estimates important parameters needed to design a final randomised controlled trial (RCT)(28).

AIM

The aim of this study is to evaluate the feasibility of the nurse nutrition intervention 'Nurses for Food' regarding reach and recruitment, dose delivered, fidelity of delivery, fidelity of treatment, acceptability of nurses and patients with (or being at risk for) malnutrition about the intervention in nursing wards of an academic- and general hospital in the Netherlands.

METHODS

Design

The feasibility of NFF was tested in a quantitative study as part of a multi-centre pilot stepped-wedge randomised controlled trial (SW-RCT) from January 2020 till July 2020. The focus of the pilot SW-RCT was to evaluate the effectiveness of NFF on the nutritional status of patients at risk for malnutrition in which this intervention was tested with standard care in the control period and NFF in the intervention period. See figure 1 for the stepped wedge design. This current feasibility study was carried out simultaneously with the pilot SW-RCT.

However, the study retained its own feasibility design, which provides information about clinical and procedural applicability focused on nursing outcomes and patient outcomes. The Consolidated Standards of Reporting Trials CONSORT for adequate and transparent reporting were used(29).

[FIGURE 1]

Setting and population

This study was conducted in two Dutch hospitals; one academic hospital and one general hospital. Two nursing wards from the academic hospital (one ward specialized in orthopaedics, trauma-surgery, neuro-trauma surgery and one ward specialized in gastrointestinal-liver) and two nursing wards from the general hospital (vascular-trauma surgery ward and geriatric ward) were selected pragmatically based on prevalence rates of malnutrition in both hospitals. The study population consisted of 1) all registered nurses (RN) working on the selected wards and; 2) patients with (or being at risk for) malnutrition admitted to the selected wards. RN who speak and write Dutch fluently, were included. Flex nurses were excluded, because they did not participate in part of the implementation of the intervention. From February 2020 till July 2020, all admitted patients with (or being at risk for) malnutrition according to the Malnutrition Universal Screening Tool (MUST) or Short Nutritional Assessment Questionnaire (SNAQ) were included in the study. Exclusion criteria for patients were; palliative patients, patients who had an expected discharge within 72 hours, patients with independence of parental nutrition, patients with readmission and patients who have already participated in the study.

Intervention

NFF is intended for nurses working in a hospital and patients with (risk of) malnutrition admitted to the hospital. NFF aims to improve patients' nutritional intake and consists of six components shown in table 1.

[TABLE 1]

The nurses first complete the e-learning. Then, nurses participate in the start meeting where the researcher provides them with information about NFF, the infographic, work instructions and additional information about the SEFI[®]. Afterwards, the nurses implement NFF in their daily routine and encourage patients with (risk of) malnutrition to use the SEFI[®] and the infographic. Throughout the intervention period, the researcher provides follow-up meetings in which the nurses discuss the barriers and facilitators to carry out the intervention.

Outcomes

The primary outcomes were 1) reach and recruitment, 2) dose delivered, 3) fidelity of delivery, 4) fidelity of treatment, 5) acceptability of nurses and patients with NFF. Table 2 provides an overview of the outcomes with corresponding definition, the tools used and the relating evaluation questions.

[TABLE 2]

The Measurement Instrument for Determinants of Innovation (MIDI) was used to measure the acceptability of the nurses regarding the e-learning (MIDI questionnaire 1) and the intervention (MIDI questionnaire 2)(30). The MIDI is widely used in clinical practice, but is not yet a validated instrument(31). The critical determinants that build up the instrument can influence the implementation and improve the innovation strategy(30). The researcher selected the most essential determinants based on the implementation of NFF in the current context. Eleven determinants were chosen to measure nurses' acceptance regarding the e-learning and 19 determinants were chosen to measure the acceptability related to the intervention.

The instrument uses questions with 5-points Likert scales ranging from 'totally disagree' (1 point) to 'totally agree' (5 points) and questions with a 'yes' (2 points) and a 'no' (1 point) answer. The expected connections between the determinants and use are for almost all determinants positive: the higher the score, the higher the expected degree of use. Where this is not the case, it is indicated that a determinant should be mirrored to be scored(32). The researchers reached consensus regarding the cut-off points; for each determinant was determined whether it is acceptable (score 4-5), neutral (score 3) or not acceptable (score 1-2). Not acceptable scores were additionally counted as barriers and acceptable scores were counted as facilitators for NFF.

Data collection

The NFF was implemented between January 2020 and June 2020. The NFF rolled out on four hospital wards through a stepped wedge design, see figure 1. The timeline of the figure is divided in blocks, which represents five weeks per block. Figure 2 demonstrates the methods of data collection for each implementation phase.

[FIGURE 2]

Control period

The four wards started together with the control period in January 2020. The nurses completed the e-learning during work time. After completing the e-learning, nurses filled in MIDI questionnaire 1 and the baseline form for nurses (outcome 5) via an online tool called Lime Survey™.

Intervention period

In the beginning of the start- and follow-up meetings, nurses filled in a baseline form again (outcome 1). After the meetings, the researcher completed the self-reported checklist whether all units of the meeting have been delivered (outcome 2). Throughout the intervention period patients were included in the study (during admission) and nurses implemented NFF in their daily routine. Additionally, the researchers asked patients to complete the acceptability questionnaire (during dismissal interview) and nurses to complete the fidelity questionnaire (outcome 3, 4 and 5). Both questionnaires start with the request to fill in baseline characteristics. In the end of intervention period, the researchers completed the checklist regarding recruitment procedures and checked e-learning system for proportion of nurses who finished the e-learning (outcome 1). In addition, the nurses completed the MIDI questionnaire 2 and acceptability questionnaire (outcome 2 and 5).

Nurses' baseline characteristics were measured several times during the training procedure and intervention period. Reasons for this entail that not exact the same nurses were present at every measurement, so the form will also function as a participation list (outcome 1).

Sample size

A feasibility study is not aimed at detecting clinical effects, so the sample size should be adequate to estimate the critical parameters to the necessary degree of precision(33,34). The median sample size found in the literature regarding feasibility studies is 34(34,35). Taken into account an attrition rate of 10%, a total sample size of at least 38 for nurses and 38 for patients should provide sufficient data to assess the feasibility for this study.

Statistical methods

The collected data was analysed using SPSS 24 (Armork, New York, USA). Descriptive analysis was used to describe nurses' characteristics, patients' characteristics and outcomes. Categorical variables were described in number and percentages. Depending on the distribution of the continues variables mean and standard deviation (SD) or median and inter quartile range (IQR) were shown. Eight proportions were calculated separately for each ward. Proportional differences between wards were determined by comparing the proportions and describing possible dissimilarities. For the detailed description of the proportions, see table 2.

The proportions were calculated for comparison with the predefined success criteria. The success criteria were based on the primary objectives of the study(36,37). The outcome can be: (1) *Stop*: main study not feasible; (2) *Continue, but modify protocol*: feasible with modification; (3) *Continue, without modifications, but monitor closely*: feasible with close monitoring; and (4) *Continue without modifications*: feasible as is(37).

Ethical considerations

This feasibility study was conducted according to the principles of the Declaration of Helsinki and guidelines and regulations from Radboudumc(38). The Medical Research Ethics Committee (METC) of the Radboudumc in the Netherlands and the Local Research Ethics Committee of the Hospital Gelderse Vallei have approved the study. Each ward considered participation, after which the manager was asked for consent. Prior to the intervention, the managers gave permission by email to start the implementation. The patients' informed consent was obtained on paper after the patients were admitted to the ward.

See appendix for the results from master thesis section 1.

Master thesis section 2

Context:

The database used in this section of the thesis was a small part of the intervention development regarding the NFF study. The database contains data from a validated questionnaire by Rasmussen et al., which determines the motivation and self-reported knowledge of nurses with regard to nutritional care in hospitals(63). Rasmussen et al. was asked permission by email to translate and validate this questionnaire. After approval, the already validated English translation of the questionnaire by Duerksen et al. has been translated into Dutch and adapted to the attitude - social influence – (self)-efficacy (ASE) model(39,64). The Dutch questionnaire was tested as a pilot for usability in a nursing ward of an academic hospital in the autumn of 2019. In January 2020, the questionnaire was sent via Lime Survey™ to 175 nurses and nurse assistants from various nursing wards in an academic hospital. Since this was a descriptive study, the aim was to enrol as many nurses and nurse assistants as possible from the wards involved.

Research question: 'What is the motivation and self-reported knowledge regarding nutritional care from nurses and nurse assistants in an academic hospital in the period prior to the implementation of NFF?'

See appendix for aim, methods and the survey from master thesis section 2.

RESULTS

In total, 54 surveys were completed, for an overall response rate of 31%. The respondents' characteristics are displayed in table 3. When 'nurses' are appointed in this article, this also includes nurse assistants. The results below are described according to the ASE-model(39).

[TABLE 3]

Motivation

Attitude

Figure 3 shows the self-reported motivation, priority, relevance and interest from the nurses in the treatment of malnourished patients.

[FIGURE 3]

Ninety-three percent of nurses, considered malnutrition as a daily theme in their work. Eighty-three percent of nurses indicated nutritional care is important in their daily work, while a majority (67%) felt that they often lack time to provide nutritional care.

Nurses' perception on optimal practice and nurses' perception on current practice with regard to specific aspects of nutritional care is outlined in figure 4. For example, 90% of nurses felt that all patients with nutritional problems should be discussed during every doctor's visit and 79% of nurses felt that this was being done in their ward.

[FIGURE 4]

Social influences

Forty-four percent of nurses indicated that less than 50% of patients with (risk of) malnutrition were constantly monitored whether they meet their daily nutritional requirements, while almost half of respondents believed that this is the nurses' primary responsibility. When it comes to keeping track of the intake of risk patients, 67% of nurses stated that this should be the primary responsibility of the nutritional assistants.

The nurses indicated that the responsibilities of the various disciplines involved in nutritional care were unclear; every second or third respondent found the responsibilities of the nurse (48%), dietitian (37%), nutritional assistant (43%) and the medical doctor (52%) unclear.

Self-efficacy

Three of every four nurses (76%) indicated that a high workload has a negative effect on nutritional care. However, protocol and guidelines to identify patients in need of nutritional care were available (83%) and useful in daily practice (74%). Seventy-four percent of nurses felt that they had access to resources to perform nutritional care, specifically for tube feeding (78%) and parenteral nutrition (82%). Less than half of nurses (47%) stated that possibilities for training courses on the subject of nutritional care were available and 20% indicated that they never participate in training about malnutrition.

Self-reported knowledge

Self-reported knowledge regarding nutritional care is indicated with a median of 7 on a 10-point scale by the respondents (figure 3). Nurses were asked to select from a list the signals that could lead to malnutrition for patients in their ward (figure 5). Although they noticed that many symptoms could lead to malnutrition, the most commonly cited signals were 'decreased appetite', 'impaired digestion and absorption in the gastrointestinal tract' and 'swallow problems'. The signals 'loneliness' and 'admission duration' scored lowest.

[FIGURE 5]

DISCUSSION

This study investigated the motivation and self-reported knowledge regarding nutritional care from nurses in an academic hospital. The results suggest that nurses have an acceptable motivation and a relatively high self-reported knowledge in the treatment of malnourished patients.

Nurses' attitudes towards nutritional care were favorable as they indicate high scores for their motivation, interest, relevance and priority in treatment of malnourished patients. However, most nurses stated that they often lack time to provide nutritional care and, concerning self-efficacy, believed that a high workload negatively affected nutritional care. Boaz et al., indicated that this lack of time for nutritional care could be due to the fact that nurses rated patient nutrition care and feeding lowest in importance among a list of nursing tasks(40). Also Carey et al., stated that although nurses recognize that there are nutritional problems, they do not consider nutrition care as a priority among other duties(11).

Regarding social influences, almost half of the nurses that participated in this study indicated that less than 50% of risk patients were constantly monitored on whether they met their daily nutritional requirements. Also nurses felt that the responsibilities of the several disciplines involved in food care were not completely clear. According to Martin et al., it is challenging for nurses to identify their responsibilities in nutritional care because the definition of 'basic' nutritional care is unclear(41). Also, Pohju et al. and Mowe et al. demonstrated that the absence of clearly defined responsibilities and inadequate co-operation between different disciplines were reported to be among the major barriers in nutritional practices(42,43). Clarifying the scope of nurses' nutritional practice could reduce uncertainty about their role in the provision of nutritional care and, in turn, increase the practice of monitoring whether patients with (a risk for) malnutrition meet their daily nutritional requirements.

The nurses' high self-reported knowledge might be an overestimation, compared to the nurses' perception of which signals lead to malnutrition. Of all the signals, 'loneliness' and 'admission duration' were scored most often as 'not important' by the nurses while prior research underlines these factors as significant causes for malnutrition(44). Additionally, previous research which reported nurses' actual knowledge regarding nutritional care showed that only 60% of nutritional knowledge exams made by nurses in hospitals and care facilities were completed correctly(40,45). Despite the fact that the exams used in each article were different, it is still claimed participants' nutritional knowledge was inadequate. Sufficient knowledge of nutritional care is important to improve the quality of nurses' nutritional care practice according to some qualitative researchers(46,47). Therefore the quality of nutritional practices may be improved by education, as also showed by Mowe et al.(42). Moreover, Bjerrum et al., and Bauer et al., demonstrated that nutritional training for nurses has a significant effect on knowledge of nutrition(45,48). In the present study however, less than half

of nurses (47%) stated that there were possibilities for nutritional training. Also the content of nutritional education requires further investigation(49).

When changing nursing practice in nutritional care, implementation and intervention studies suggested that improving only the training of nurses is insufficient(50,51). Understanding the determinants that influence nurses' behaviour in nutritional care is essential and needs to be addressed(52). In this study, the barriers to nutritional care are reported based on the ASE-model to provide insight in nurses' attitude, self-efficacy and social influences. Besides education, the main determinants to improve are prioritizing nutritional care, consistent monitoring of food intake and clear roles in nutritional care of health care professionals. Therefore, a nurse nutrition intervention is desirable that includes a multidisciplinary collaboration with clearly defined roles and thorough evidence-based nutrition care training. An implementation strategy which focuses on context and barriers in the behaviour of nurses regarding nutritional care is essential to optimize the treatment of patients with malnutrition and to ensure that nutrition is an important part of nursing function.

Strengths and limitations

This study might contribute to the further development and refinement of the NFF intervention from master thesis section 1, as this survey indicates the main determinants that influence nurses' behaviour in nutritional care. The barriers indicated in this study come directly from nurses who are most in touch with the patients' needs, which may provide a good basis for implementation of the intervention as this is a classical bottom up approach(53). Additionally, nurses from surgical and nonsurgical wards participated in this study which adds to the generalizability and usefulness of the results in the continuation of the NFF study.

This study also has some limitations. Firstly, the low response rate of 31% is an important consideration when interpreting the results, as the respondents may have been those with an interest in nutritional care(54). Response bias could give more positive results for the study, especially with regard to the relevance and interest of nutrition for nurses. Secondly, no statement can be made about the response rate specific to the type of professional as the distribution between the invited nurses and nursing assistants was unclear prior to the analysis of the survey. Thirdly, nurse assistants were included in this study because they are involved in nutritional care in daily practice. Here, the limitation lies in the difference in educational background and responsibilities between nurses and nurse assistants that may affect the knowledge of current protocols and processes, as well as their competence to recognize malnutrition of hospitalized patients. Fourthly, this study was conducted in an academic hospital which limits the generalizability of the results to other- and general hospitals. Finally, the questions in this survey are based on the perception of nurses regarding their own knowledge and attitudes, the actual knowledge and attitudes are not addressed here.

Conclusion

Nurses have an acceptable motivation and a relatively high self-reported knowledge in the treatment of malnourished patients. Malnutrition is seen as a daily theme in the execution of nursing care, but it is not considered as a priority among other duties. The responsibilities in nutritional care are not completely clear among nurses, which may result in no consistent monitoring whether patients with (risk of) malnutrition meet their daily nutritional requirements.

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TABLES AND FIGURES

Table 1. Elements of Nurses For Food

Element	Content
1. E-learning	The e-learning contains five modules of each 20-30 minutes. The modules are divided in: 1) general, screening and assessment; 2) treatment; 3) prevention; 4) nutritional intake assistance, and 5) cooperation. Each module consists of learning objectives, an education video, a case about malnutrition, a partial tests and end-test to test the knowledge about (mal)nutrition, with the aim of developing knowledge, acquiring skills and behavior change, to provide better quality nutritional care to patients with an (imminent) nutritional deficiency. Nurses earn four to five accreditation points when completing the e-learning.
2. Work instructions	The work instructions are conducted together with ward-nurses and include all of the elements which the nurses can provide to the patients additionally to usual care during the intervention period.
3. Start meeting	In addition to the work instruction, nurses receive information about NFF during the start meeting provided by the researcher. They receive the work instruction and practice through case studies or role play how to use the SEFI® card (www.sefi-nutrition.com) and the infographic. The aim of this meeting is the repetition of knowledge about malnutrition, creating awareness about the subject and getting trained to conduct the intervention. The meetings take place twice in the same week with a group size of approximately 15 nurses. The nurses' shifts were taken into account during the planning of the meetings. For example, the first meeting was planned after a day-shift and the second meeting was planned before an evening-shift.
4. Follow-up meeting	The follow-up meeting for nurses takes place once during the intervention period with the aim of peer-to-peer coaching. Barriers and facilitators for nurses to conduct the intervention are the topic of discussion, which is led by the researcher. The meeting is organised four times with a group size of approximately 15 nurses. As already mentioned, the nurses shifts were taken into account during the planning of the meetings.
5. SEFI® card	The SEFI® allows quick evaluation of consumed portions by self-assessment after lunch or dinner ranging from "nothing at all" to "as usual". Patients are involved in nutritional care by rating for themselves the amount that has been eaten. On the reverse side of the SEFI® the nurse can see the result, between 0 and 10, for early assessment of nutritional risk of malnutrition among patients. The SEFI® has been translated into Dutch and is validated in a separate study (www.sefi-nutrition.com). A Dutch version of the SEFI® is available.
6. Nutritional care infographic for nurses	The infographic serves as a visual summary of important components of nutritional care for nurses based on the e-learning and work instruction. It provides information about malnutrition (e.g. prevalence and consequences), percentage of patients in need of nutritional intake assistance, and actions nurses can take to improve nutritional care.
7. Nutritional care infographic for patients	The infographic provides the patients with information about malnutrition e.g. the definition and prevalence of malnutrition and the percentage of patients in need of nutritional intake assistance. Additionally, the benefits of good nutritional intake, the components of good nutritional intake and elements on patient's behavior to improve their nutritional intake are included in the infographic.

SEFI® = Simple Evaluation of Food Intake®

Table 2. Overview of outcomes, definitions, evaluation questions, tools, data analysis and success criteria

Outcome	Definition	Evaluation questions	Tool	Data analysis	Success criteria
1. Reach/ recruitment	<i>Reach</i> Proportion of the intended audience that participates in the intervention(55)	Has the start meeting and follow-up meeting been given to at least 80% of the nurses on the ward?	Form for nurses to fill in baseline characteristics during the start- and follow-up meeting	Proportion of nurses participating in start meeting (= numerator) from total of nurses working on the ward (=denominator) Display of baseline characteristics participating to the start meeting	>80% of all participating nurses
		Has the e-learning been given to at least 80% of the nurses on the ward?	The researcher checks e-learning system for the amount of nurses who have completed the e-learning	Proportion of nurses who completed the e-learning (= numerator) from total of nurses working on the ward (=denominator)	>80% of all participating nurses
	<i>Recruitment</i> Procedures used to approach and attract participants at individual or organizational levels(55)	What planned and actual procedures did the researcher used to encourage the involvement the training and the involvement of carrying out the nursing intervention?	Checklist for the researcher to document all actual recruitment procedures	Proportion of actual recruitment activities (= numerator) from total of planned recruitment activities (=denominator)	>85% of recruitment activities
2. Dose delivered	The amount of intended units of each component delivered or provided by the interventionists (56)	Were all intervention components delivered (e.g., did the researcher deliver all units of the start meeting and follow-up meeting?)	Self-reported checklist for the researcher for checking whether all units of meeting have been delivered	Proportion of delivered units per meeting (= numerator) from total of planned units per meeting (=denominator)	>90% of all units delivered
		Did all the included nurses receive the SEFI® and the infographic?	Included questions in acceptability questionnaire nurses	Proportion of nurses who received the SEFI® and infographic (= numerator) from total of nurses working on the ward (=denominator)	>85% of all participating nurses

3. Fidelity of delivery (nurses)	The extent to which the intervention was delivered as planned (56)	To what extent was each of the intervention elements implemented as planned? Where there particular components for which adherence was especially poor? What are the characteristics of those who adhered and those who did not?	Fidelity questionnaire for nurses to rate the extent to which they were able to carry out the required elements of intervention Each fidelity questionnaire entails a box for filling in baseline characteristics	Per intervention element, the proportion of executed elements was analysed descriptively. The response rate and distribution per element were displayed in a histogram Display of baseline characteristics who filled in the self-reported checklist	>85% staff adherence to NFF
4. Fidelity of treatment (patient)	Operationalized as: <i>Treatment enactment</i> ; assessing and optimizing the degree to which the participant applies the skills learned in treatment in his or her daily life(57)	To what extent used the patients the SEFI® and the infographic? What are the characteristics of those who adhered and those who did not?	A questionnaire for patients which gives insight in the opinion and use of patient participation, the SEFI® and the infographic. For each question will be determined whether it is acceptable (score 4-5), neutral (score 3) or not acceptable (score 1-2), in some cases questions should be mirrored to be scored Each questionnaire entails a box for filling in baseline characteristics	Per intervention element, the proportion of performed elements was analysed descriptively. Display of baseline characteristics who filled in the questionnaire	>85% patient adherence to NFF
5. Acceptability nurses and patients	Participant's satisfaction with the program(55)	What is the acceptability from the nurses and patients regarding NFF in the given context?	The MIDI* questionnaire 1 and MIDI questionnaire 2 both <u>only for nurses</u> to rate the intermediary users' perceptions relating to the e-learning and NFF respectively. A questionnaire <u>for patients` and nurses</u> (questionnaire for nurses in addition to MIDI 2) which gives insight in the opinion and use of patient participation, the SEFI® and the infographic. For each question is determined whether it is acceptable (score 4-5), neutral (score 3) or not acceptable (score 1-2), in some cases questions should be mirrored to be scored	Each determinant of the MIDI was compared with the obtained scores and analysed using descriptive statistics. Each topic of the acceptability questionnaire was compared with the obtained scores and analysed using descriptive statistics.	>80% of the determinants are scored as 'acceptable' >80% of the questions are scored as 'acceptable'

SEFI® = Simple Evaluation of Food Intake®

MIDI = Measurement Instrument for Determinants of Innovation

Table 3. Nurses' characteristics

	Nurses
	N = 54 (100%)
Gender (female) ^a	44 (85)
Age (years) ^b	31 (20)
Degree of nursing ^a	
- Nurse assistants	3 (6)
- Inservice	3 (6)
- Secondary vocational education	6 (11)
- Bachelor	38 (70)
- Master	4 (7)
Ward ^a	
- Surgery #	21 (39)
- Medical oncology	15 (28)
- Haematology	13 (24)
- Urology & genealogy	3 (5)
- Day treatment	1 (2)
- Flex ward	1 (2)
Work experience (years) ^b	8 (17)
Work experience inside hospital (years) ^b	7 (13,5)
Work experience inside current ward (years) ^b	5 (10.5)
Contract hours weekly basis (hours) ^b	32 (8)

Surgical oncology, gastrointestinal liver

^a *Results are expressed as number and percentage*

^b *Results are expressed as median and IQR*

Figure 3. The medians of self-reported knowledge, interest, relevance, priority and motivation in treatment of malnourished patients (based on a 10-point Likert scale)

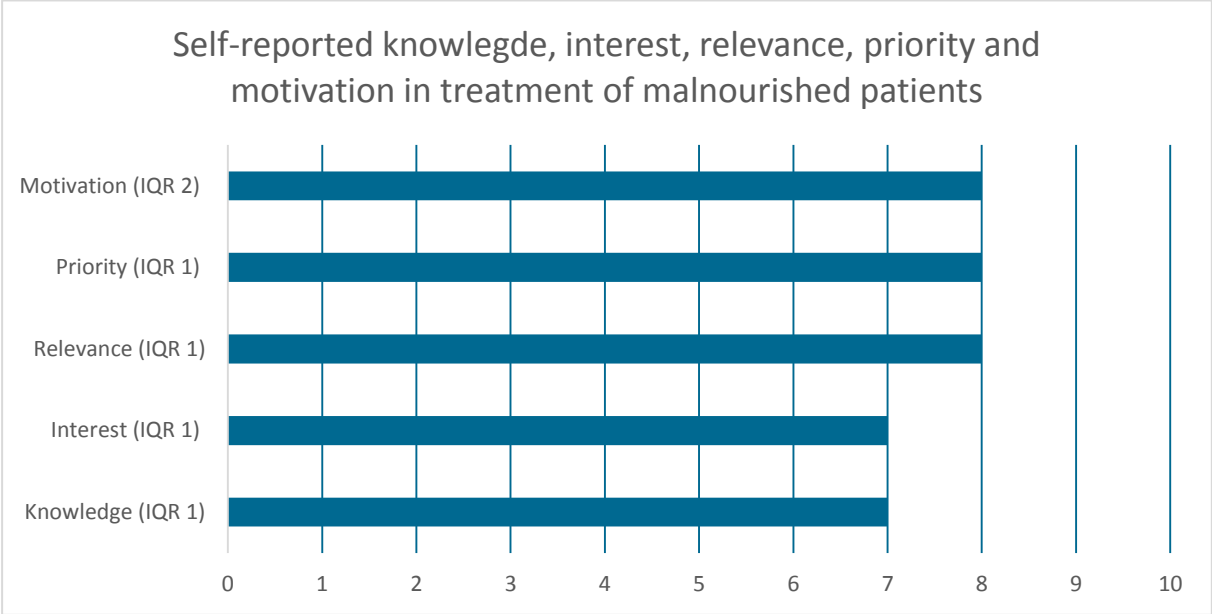


Figure 4. Nurses’ perceptions of current practice in nutrition assessment (NA) and in patient weights compared with nurses’ perceptions of optimal practice in NA and in patient weights

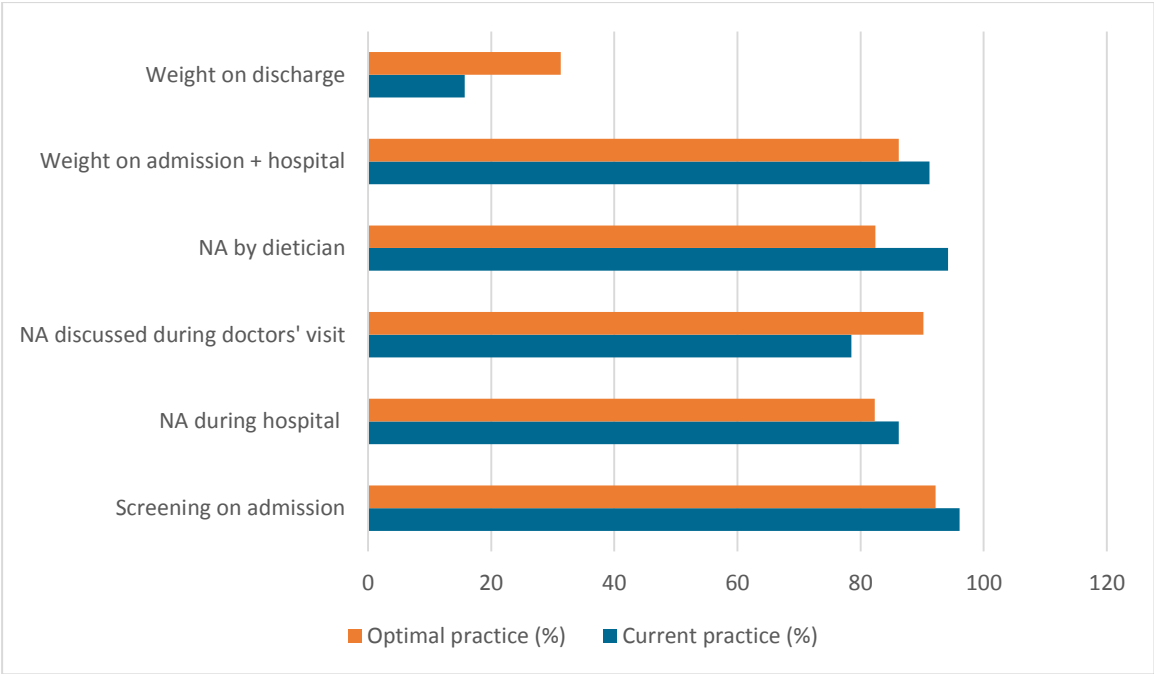
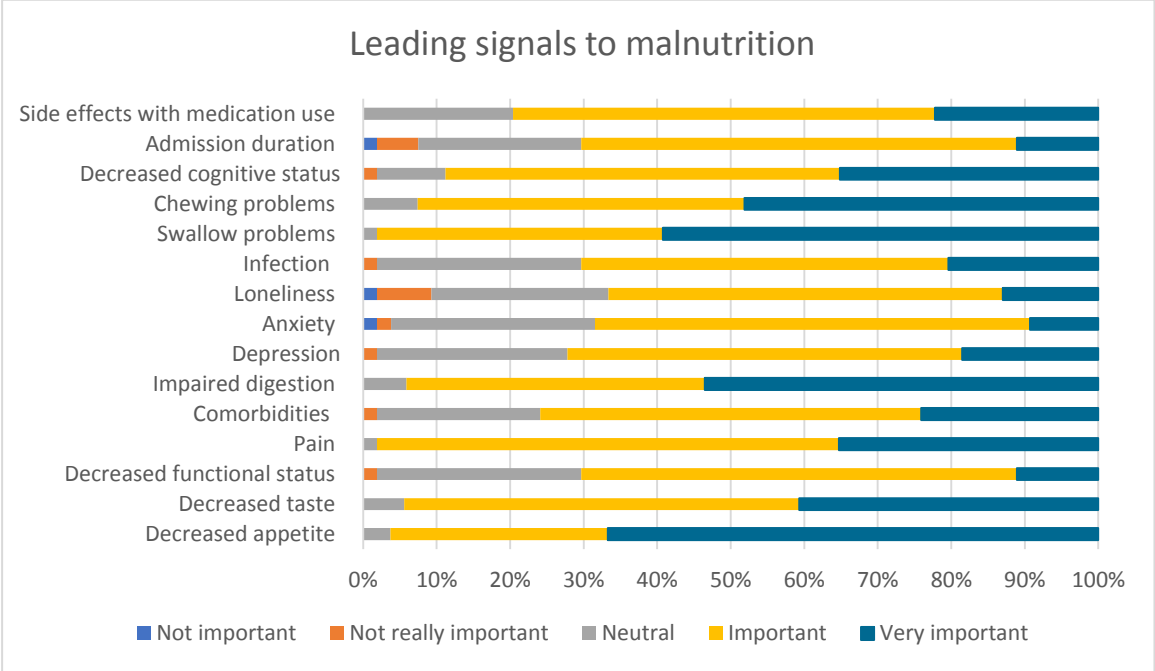


Figure 5. Nurses' perception of which signals lead to malnutrition



APPENDIXES

Appendix 1. Results Master thesis section 1

Context

Due to COVID-19 pandemic the feasibility study has been paused from March 12th 2020. Ward B, C and D spent two months in the control period. Ward A underwent a partly implementation of NFF after which the study was subsequently discontinued. The ward spent a total of 23 days in the intervention period wherein the e-learning and start meetings have been implemented. The follow-up meeting was planned at March 12th 2020, which had to be cancelled due to new policy on COVID-19 pandemic. The results below describe the data which is collected until March 12th 2020.

RESULTS

Reach and recruitment

Recruitment of nurses took place from December 2019 until March 2020. From the planned recruitment activities for ward A, 92,9% were actually used to encourage the involvement of the training and the involvement of carrying out NFF. The actual recruitment activities for ward B, C and D were respectively; 81,3%, 50% and 50%.

Ward A underwent a partly implementation of NFF after which the study was subsequently discontinued due to COVID-19 pandemic. From this ward, thirty-nine nurses (79,6%) completed the e-learning and twenty-seven (55,1%) nurses participated to the start meeting.

Participants

A total of 49 nurses are working in the included ward. Baseline characteristics from the nurses who evaluated the e-learning and the baseline of nurses who participated to the start meeting are displayed in table 3.

Table 3. Baseline characteristics nurses per element of Nurses For Food

	E-learning evaluation	Start meeting
	----- N = 8 (100%)	----- N = 27 (100%)
Nursing characteristics		
Gender (female) ^a	8 (100)	27 (100)
Age (years) ^b	31 (17)	31 (16)
Degree of nursing ^a		
- Personal healthcare assistant	0 (0)	0 (0)
- Inservice	0 (0)	5 (19)
- Secondary vocational education	2 (25)	9 (33)
- Bachelor		
- Master	6 (75)	13 (48)
Work experience (years) ^b	3 (14)	6 (18)

^a Results are expressed as number and percentage

^b Results are expressed as median and IQR

From the included patients, a number of six completed the questionnaire. Baseline characteristics from those patients are displayed in table 4.

Table 4. Baseline characteristics patients

	Intervention period
	----- N = 6 (100%)
Patient characteristics	
Gender (female) ^a	5 (83)
Age (years) ^b	78 (15)

^a Results are expressed as number and percentage

^b Results are expressed as median and IQR

Dose delivered

The start meetings were held on two different dates. The researcher led the start meetings following a checklist. On average 81,6% of the planned units of start meeting were delivered to the nurses who participated to the meetings. Due to COVID-19 pandemic, there was no possibility to measure the extent to which the other components of the NFF were delivered.

Fidelity of delivery

Due to COVID-19 pandemic, there was no possibility to measure this outcome.

Fidelity of treatment

Questionnaires on fidelity of treatment by patients were returned on paper by a total of 6 patients (100%). Two patients (33%) stated that they received the infographic, but they did not read the information provided on the infographic. Four patients (67%) did not receive the infographic from the nurses.

Sixty seven percent of patients stated that they received the SEFI® and 50% of patients used the SEFI® on a daily basis.

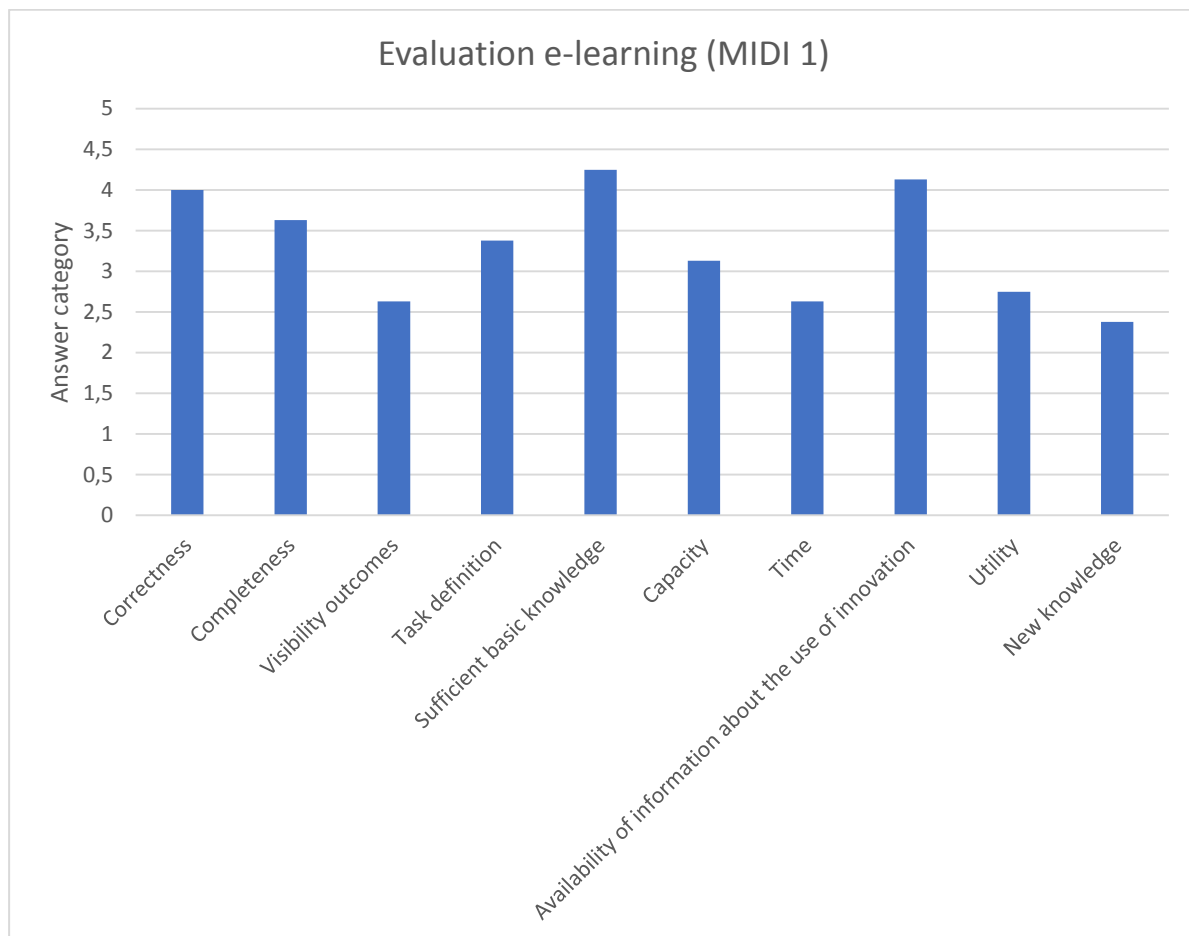
Acceptability nurses and patients

Nurses

Questionnaires on acceptability of the e-learning were returned online by a total of eight nurses (17,4%). Several determinants were measured and displayed in figure 3.

From the determinants 33,3% were scored as 'acceptable' (score ≥ 4). The nurses did not find the intervention too complex (score = 4 on a mirrored scale) and thought that half of the colleagues (average score = 4.25 on a 7 point- Likert scale) in their organisation for whom the e-learning is intended actually used the e-learning.

Figure 3. Evaluation e-learning (MIDI 1)



Due to COVID-19 pandemic, questionnaires on acceptability of intervention by nurses could not be measured.

Patients

Questionnaires on acceptability of the intervention by patients were returned on paper by a total of 6 patients (n = 100%).

Fifty percent of patient indicated that they enjoyed being involved in nutritional care. Patients stated that they would rather have family involved in nutritional care (67%), while they felt that this involvement was not possible (50%). Additionally, they stated that there was no opportunity to bring their own knowledge, experiences and need into the nutritional care (50%). Half of patients liked to take more responsibility in nutritional care. Patients felt that they had enough control over what happened during nutritional care (66,7%) and they liked to take more responsibility in nutrition care (50%).

Patient found the SEFI® it a great way to indicate how much they have eaten (50%). Two patients stated that they were more aware of their nutritional intake through the SEFI® (33%) and that they have an increased intake when using the SEFI® (33%). They did not find the SEFI® to complicated to use (83%) and they preferred to participate in the use of the SEFI®

(83%). Additionally, patients (33,3%) felt that the SEFI® did not give more direction in food care.

Two patients received the infographic (33%). Both stated that they did not read the infographic so they could not fill in the rest of the questionnaire.

Appendix 2. Methods, data collection and statistical methods of master thesis section 2

METHODS

The survey

The Dutch questionnaire is tested as a pilot for usability in a nursing ward from an academic hospital. Through a cross-sectional design, the questionnaire was sent via Lime Survey™ version 2.06 to 175 nurses and nurse assistants in an academic hospital. Since the NFF study from master thesis section 1 allows nursing assistants to participate in the start- and follow-up meetings and because nurse assistants are involved in nutritional care in daily practice, it was decided not to distinguish between nurses and nurse assistants in master thesis section 2.

The survey consists of 26 main questions and took approximately 15 to 20 minutes to complete. Each main question also has four to sixteen sub-questions which were divided into the components of the ASE-model. The survey consists of several response categories:

- Some response categories ranged from 1 to 5, where 1 meant 'not important' and 5 meant 'very important'.
- There were questions in which healthcare professionals could indicate that something 'always', 'often', 'sometimes' or 'never' happens.
- Questions could be answered with 1) 'yes in all patients,' 'yes in >50% of patients,' 'yes in <50% of patients,' 'no', and 'don't know'
- Questions could be answered with entirely agree, largely agree, largely disagree, entirely disagree, or don't know.
- Questions could be answered with 'yes,' 'no,' and 'don't know'
- Questions could be answered with 'agree' and 'disagree'
- Some response categories ranged from 1 to 5, where 1 meant 'not satisfied' and 5 meant 'very satisfied',
- Questions could be answered with 'yes', 'yes, to a certain extent', 'no', 'don't know'.
- Questions could be answered with 1) 'rarely a problem', 'sometimes a problem', 'often a problem'
- Some components of nutritional care could be rated from 1 to 10.

ASE-model

The ASE-model has derived from the social cognitive theory and the theory of reasoned action (TRA) (figure 1) (58,59). The model assumes that the cognitive variables attitude, social influences and self-efficacy, determine intention and behaviour. Additionally, the model

suggests that intention predicts behaviour. A model that has been described more extensively than the ASE-model is the Integrated-Change model that recaps attitude, social influence and own effectiveness as ‘motivation’(60). Attitude can be described as the mindset towards the behaviour and is determined by experiences and different kinds of beliefs about behaviour. Social influences is the processes that directly or indirectly affect people’s thoughts, feelings and actions of others. Expectations of self-efficacy can be understood as a person’s belief in his or her skill to act upon the preferred behaviour. External variables are variables such as gender, age, education, knowledge, social economic status and personal characteristics. These factors also indirectly affect intentions and behaviour(61).

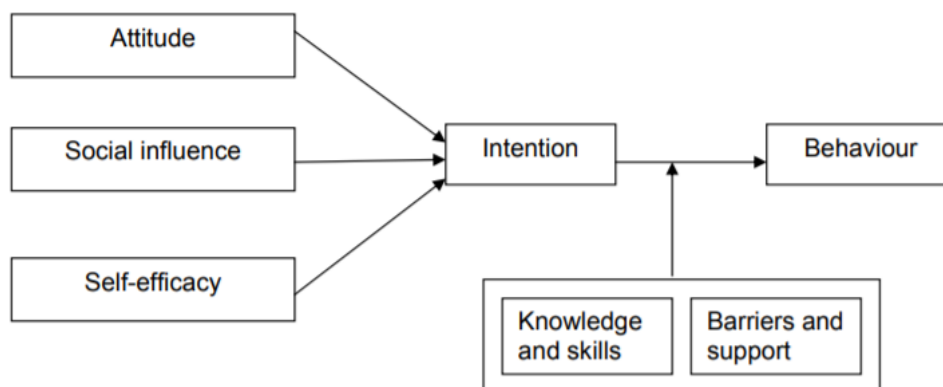


Figure 1. ASE-model (62)

Statistical methods

The obtained data was exported to SPSS 24 (Armork, New York, USA) where descriptive analysis was conducted to describe nurses characteristics and outcomes. Distributions of continuous variables were assessed for normality using the Shapiro-Wilk test (cut off at $p < .05$). Continuous variables which were normally distributed were described as mean \pm standard deviation, and those with distributions that significantly deviated from normal were described as median and Inter Quartile Range (IQR). To describe the sample and to compare responses with various questions, median, IQR and proportions were used. Depending on the distribution of the variables, number and percentages or median and IQR were used. Some response categories were dichotomized to stimulate interpretation and analysis. Among the items of view on malnutrition, responses were dichotomized as ‘practiced’ (included responses ‘yes in all patients’ and ‘yes in >50% of patients’) and ‘not practiced’ (included responses ‘yes in <50% of patients’ and ‘no’). Additionally, responses were dichotomized as ‘agreed’ (‘entirely agree’ and ‘largely agree’) and ‘disagreed’ (‘entirely disagree’ and ‘largely disagree’). The response ‘don’t know’ was treated as missing data for the bivariate analyses.

APPENDIX 3. SURVEY

Samen (werken) naar optimale voedingszorg in het Radboudumc

In het project Basic Care Revisited worden de verpleegkundige basiszorg activiteiten wetenschappelijk onderbouwd. De Nurses For Food studie is een onderdeel van dit project, waarin de verpleegkundige aanpak van ondervoeding, in samenwerking met de zorgprofessional en de patiënt/naasten, wordt verbeterd. Met deze enquête doen wij onderzoek naar de barrières en mogelijkheden/kansen in de voedingszorg bij de behandeling van ondervoeding. Uw ervaringen als zorgprofessional zijn van belang om de patiënt beter te maken. Het invullen van deze enquête duurt ongeveer 15 minuten. Wij stellen uw bijdrage erg op prijs en verloten daarom een presentje onder de respondenten. Er zijn 25 vragen in deze enquête.

Algemene gegevens

Wat is uw geslacht? *

Kies één van de volgende mogelijkheden:

- Vrouw
- Man

Wat is uw leeftijd? *

Wat is de functie die u uitoefent? *

Kies één van de volgende mogelijkheden:

- Verpleegkundige
- Verpleegassistent of zorg assistent
- Diëtist
- Logopedist
- Voedingsassistent of roomservice medewerker
- (Afdelings) arts
- Physician Assistant
- Andere

Op welke afdeling werkt u? *

In welk ziekenhuis bent u werkzaam?

- Radboudumc
- Ziekenhuis Gelderse Vallei

Wat is uw hoogst voltooide opleiding? *

Kies één van de volgende mogelijkheden:

- MBO niveau 2
- MBO niveau 3
- MBO niveau 4
- Inservice-opleiding
- HBO
- Universiteit
- Andere

De volgende vragen gaan over uw werkervaring.

Hoeveel jaren werkervaring heeft u?

Hoe lang werkt u in het ziekenhuis ? (in jaren)

Hoe lang werkt u op uw huidige afdeling? (in jaren)
Hoeveel uur per week werkt u op dit moment?

Kennis en kunde

Welke van de onderstaande signalen kunnen in uw ervaring aanleiding geven tot ondervoeding? *Scoor in functie van belangrijkheid door het vakje aan te kruisen dat het beste uw mening weergeeft op de volgende schaal: 1 = niet belangrijk en 5 = heel belangrijk.* *

Kies het toepasselijke antwoord voor elk onderdeel:

	1 (niet belangrijk)	2 (niet echt belangrijk)	3 (neutraal)	4 (belangrijk)	5 (heel belangrijk)
Verminderde eetlust	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Verminderde smaak	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Verminderde functionele status, zoals verminderde mobiliteit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pijn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comorbiditeit (meerdere aandoeningen tegelijk aanwezig)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Verstoorde vertering en opname in het maag-darmkanaal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Depressie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Angst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eenzaamheid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Infectie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Slikproblemen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kauwproblemen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Verminderde cognitieve status, zoals dementie en delier	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opnameduur	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bijwerkingen bij medicatiegebruik	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Reageer op onderstaande stellingen wat bij u van toepassing is. Vink één kolom aan voor elke stelling. *

Kies het toepasselijke antwoord voor elk onderdeel:

	Ja, altijd	Ja, vaak	Ja, soms	Nee, nooit	Weet ik niet
Ik ben aanwezig bij een bijscholing over ondervoeding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik lees (wetenschappelijke) artikelen over ondervoeding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Protocollen en richtlijnen met betrekking tot ondervoeding zijn handige hulpmiddelen in mijn dagelijkse werk.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ondervoeding is een dagelijks thema in de uitvoering van mijn werk.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ondervoeding is een thema tijdens het klinisch redeneren.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Opvattingen over ondervoeding

Reageer op de onderstaande stellingen met betrekking tot de huidige uitvoering van de voedingszorg op uw afdeling. *Vink één kolom aan voor elke stelling.*

Op mijn afdeling...

	Nee	Ja, bij een deel van de patiënten (<50%)	Ja, bij een deel van de patiënten (>50%)	Ja, bij alle patiënt en	Weet ik niet
komt het onderwerp voeding aanbod tijdens de verpleegkundige anamnese.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
worden patiënten bij opname gescreend op hun risico op ondervoeding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
worden patiënten met een risico op ondervoeding beoordeeld op hun voedingstoestand door de diëtist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is het standaard procedure dat de voedingstoestand van alle patiënten regelmatig wordt geëvalueerd.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
worden bevindingen met betrekking tot voeding genoteerd in het elektronisch patiëntendossier.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
komen de voedingsproblemen van de patiënt routinematig terug tijdens de artsensite.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
worden patiënten voor ontslag beoordeeld op hun voedingstoestand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is de voedingsstatus van de patiënt een vast onderwerp van de overdracht.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Nee	Ja, bij een deel van de patiënten (<50%)	Ja, bij een deel van de patiënten (>50%)	Ja, bij alle patiënten	Weet ik niet
worden patiënten gewogen bij opname.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
worden patiënten regelmatig en op vaste momenten gewogen tijdens ziekenhuisopname.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
worden patiënten routinematig gewogen voor ontslag.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Reageer op de onderstaande stellingen met betrekking tot patiënten met (risico op) ondervoeding op uw afdeling. Vink één vakje aan bij elke stelling.

Op mijn afdeling...

Kies het toepasselijke antwoord voor elk onderdeel:

	Nee	Ja, bij een deel van de patiënten (<50%)	Ja, bij een deel van de patiënten (>50%)	Ja, bij alle patiënten	Weet ik niet
wordt de intake bijgehouden bij patiënten met (risico op) ondervoeding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
wordt van risicopatiënten voortdurend bijgehouden of zij hun dagelijkse voedingsbehoefte halen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is een voedingszorgplan opgenomen in het elektronisch patiëntendossier.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Wie vindt u hier het meest verantwoordelijk voor?

Op mijn afdeling...

Kies het toepasselijke antwoord voor elk onderdeel:

	Voedingssistent	Diëtist	Verpleegkundige	Verpleegassistent	Arts	Logopedist	Patiënt	Naaste
wordt de intake bijgehouden bij patiënten met (risico op) ondervoeding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
wordt van risicopatiënten voortdurend bijgehouden of zij hun dagelijkse voedingsbehoefte halen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is een voedingszorgplan opgenomen in het	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Voedingssistent	Diëtist	Verpleegkundige	Verpleegassistent	Arts	Logopedist	Patiënt	Naaste
elektronisch patiëntendossier.								

Reageer op de onderstaande stellingen over wat u gelooft/denkt wat standaard zou moeten zijn op uw afdeling. Vink één kolom aan voor elke stelling.

Alle patiënten...

Kies het toepasselijke antwoord voor elk onderdeel:

	Helemaal mee eens	Grotendeels mee eens	Grotendeels mee oneens	Helemaal mee oneens	Weet ik niet
moeten bij opname worden gescreend op hun risico op ondervoeding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
moeten tijdens opname tenminste één keer per week worden geëvalueerd op gebied van hun voedingstoestand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
moeten meer eigen regie en inspraak krijgen tijdens opname op het gebied van voedingszorg.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
met voedingsproblemen moeten tijdens elke artsensite besproken worden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
met een verminderde voedingsinname moeten binnen 24 uur een behandelplan hebben, opgesteld door de diëtist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
moeten bij ontslag een overdracht van hun voedingsstatus hebben.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
moeten worden gewogen bij opnamemoeten tijdens opname op vaste dagen worden gewogen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
moeten op de dag van ontslag worden gewogen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Organisatorisch

Welke van de volgende stellingen zijn van toepassing op uw afdeling? Vink één kolom aan voor elke stelling. * Kies het toepasselijke antwoord voor elk onderdeel:

	Ja	Nee	Weet ik niet
Er zijn verpleegkundigen met een aandachtsveld voor voeding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Er zijn richtlijnen/protocollen beschikbaar voor het identificeren van patiënten die voedingszorg nodig hebben.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Er zijn richtlijnen/protocollen beschikbaar voor het uitvoeren van voedingszorg.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Ja	Nee	Weet ik niet
Richtlijnen/protocollen zijn goed geïntegreerd in het elektronisch patiëntendossier.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Er is een richtlijn/protocol beschikbaar specifiek voor sondevoeding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Er is een richtlijn/protocol beschikbaar specifiek voor parenterale voeding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het is helder voor alle medewerkers wat de verantwoordelijkheid van de verpleegkundige in de voedingszorg is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het is helder voor alle medewerkers wat de verantwoordelijkheid van de diëtiste in de voedingszorg is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het is helder voor alle medewerkers wat de verantwoordelijkheid van de voedingsassistent in de voedingszorg is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het is helder voor alle medewerkers wat de verantwoordelijkheid van de (afdelings)arts in de voedingszorg is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Er zijn mogelijkheden tot het volgen van scholingen met betrekking tot het onderwerp voedingszorg.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Bent u het eens of oneens met de volgende stellingen? Vink één kolom aan. *

Kies het toepasselijke antwoord voor elk onderdeel:

	Eens	Oneens	Weet ik niet
Verpleegassistenten dragen positief bij aan de voedingszorg op de afdeling.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Voedingszorg vind ik niet onbelangrijk.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik heb niet altijd tijd voor voedingszorg.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hoge werkdruk heeft een negatieve invloed op de voedingszorg.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

a. Met wie (welke discipline(s)) werkt u samen tijdens het opstellen en uitvoeren van een voedingsplan? *

Selecteer alle mogelijkheden:

- Verpleegkundige
- Diëtist
- Voedingsassistent
- Verpleegassistent
- (Afdelings)arts
- Logopedist
- Patiënten/naasten
- Andere:

b. Hoe ervaart u deze samenwerking? Scoor door het vakje aan te kruisen dat het beste uw mening weergeeft op de volgende schaal: 1 = niet tevreden en 5 = heel tevreden. *

Kies het toepasselijke antwoord voor elk onderdeel:

	1	2	3	4	5	Weet ik niet
Verpleegkundige(n)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1	2	3	4	5	Weet ik niet
Diëtist(en)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Voedingsassistent(en)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Verpleegassistent(en)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(Afdelings)arts(en)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Logopedist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patiënt(en)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Familie/naaste(n)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Beantwoord de volgende vragen. Vink één kolom per vraag aan. *

Kies het toepasselijke antwoord voor elk onderdeel:

	Ja	Ja, tot op zekere hoogte	Nee	Weet ik niet
Zijn er op uw afdeling diëtisten beschikbaar voor advies?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nemen diëtisten op de afdeling regelmatig deel aan verpleegkundige of medische visites?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is het volgens u bevorderlijk als diëtisten meer worden benut op de afdeling dan nu wordt gedaan?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Ervaringen zorgprofessionals

Vink de drie belangrijkste redenen aan waarom patiënten op de afdeling mogelijk onvoldoende voedingsondersteuning krijgen (denk aan kunstmatige voeding, sondevoeding, bijvoeding, aangepast dieet, etc.). *

Selecteer alle mogelijkheden:

- Niet bewust zijn van het belang van voeding
- Het is niet bekend welke personen ondervoed zijn
- Onverschilligheid
- Gebrek aan documentatie
- Te veel complicaties
- Het is niet duidelijk wie waarvoor verantwoordelijk is
- Tijdrovend
- Techniek is lastig
- Het is lastig om de ondervoede patiënt te identificeren/screenen
- Te duur
- Andere:

Vink voor uw afdeling de meest belangrijke redenen aan waarom patiënten niet (goed) eten. Één antwoord mogelijk per stelling. *

Kies het toepasselijke antwoord voor elk onderdeel:

	Zelden een probleem	Soms een probleem	Vaak een probleem
Patiënten krijgen niet genoeg tijd om te eten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patiënten hebben geen keus in maaltijdmomenten/etenstijden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De maaltijden van patiënten worden onderbroken door verpleegkundige of (para)medische zorg of andere procedures.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patiënten zijn niet goed gepositioneerd om te eten/ hebben geen goede houding om te eten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patiënten zijn niet in staat om zelf te kunnen eten of om verpakkingen open te maken.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pijn en andere symptomen van de patiënten worden niet goed behandeld.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patiënten krijgen onvoldoende hulp bij het eten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Hoe goed is uw kennis van...? Vink één vakje aan op de schaal van 1 tot 10, waarbij 1 = geen kennis en 10 = uitmuntende kennis. *

Kies het toepasselijke antwoord voor elk onderdeel:

	1	2	3	4	5	6	7	8	9	10
De behandeling van ondervoede patiënten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Hoe geïnteresseerd bent u in...? Vink één vakje aan op de schaal van 1 tot 10, waarbij 1 = geen interesse en 10 = hoogste mate van interesse. *

Kies het toepasselijke antwoord voor elk onderdeel:

	1	2	3	4	5	6	7	8	9	10
De behandeling van ondervoede patiënten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In hoeverre vindt u het relevant dat u goed op de hoogte bent van...? Vink één vakje aan op de schaal van 1 tot 10, waarbij 1 = niet relevant en 10 = zeer relevant. *

Kies het toepasselijke antwoord voor elk onderdeel:

	1	2	3	4	5	6	7	8	9	10
De behandeling van ondervoede patiënten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In hoeverre vindt u voedingszorg een prioriteit in uw dagelijks werk...? Vink één vakje aan op de schaal van 1 tot 10, waarbij 1 = geen prioriteit en 10 = zeer hoge prioriteit. *

Kies het toepasselijke antwoord voor elk onderdeel:

	1	2	3	4	5	6	7	8	9	10
De behandeling van ondervoede patiënten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In hoeverre bent u gemotiveerd om voedingszorg optimaal te maken? Vink één vakje aan op de schaal van 1 tot 10, waarbij 1= niet gemotiveerd en 10 = zeer gemotiveerd. *
 Kies het toepasselijke antwoord voor elk onderdeel:

	1	2	3	4	5	6	7	8	9	10
De behandeling van ondervoede patiënten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Afsluiting

Heeft u suggesties ter verbetering?

Bedankt dat u de tijd heeft genomen voor het invullen van deze enquête.
 Samen (werken) naar optimale voedingszorg. Voor jullie èn door jullie.