

Opportunities for Patient Participation in Perioperative Malnutrition Care: A Qualitative Study

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Abstract

Introduction: In the perioperative period of hospitalization, barriers to food intake are common due to special nutritional needs, compromised nutritional status, and metabolic stress. Good nutritional care call for an interdisciplinary approach. And patients themselves may also play an essential role in managing nutritional care.

Objective: This study aimed to explore how patients with malnutrition experience nutritional care, their perspectives on patient participation, and their own role in malnutrition care in the perioperative period of hospitalization.

Methods: A qualitative study was conducted using an interpretive phenomenological approach. To follow patients' experiences, in-depth longitudinal interviews were undertaken before, during, and after hospitalization. Interview transcripts were analyzed thematically using open, axial, and selective coding and interpreted in an iterative process.

Results: Fifty-six interviews were undertaken with 26 patients with malnutrition scheduled for surgery and during the perioperative period of hospitalization. Four themes were identified: (1) unawareness and stigmata about being malnourished, (2) feasibility of optimal nutritional care, (3) needs and expectations for self-management, and (4) barriers and facilitators of taking own responsibilities in nutritional care.

Conclusion: Awareness and responsiveness to patients' perspectives, motivation, and compliance are prerequisites for patient participation in malnutrition care. This requires good communication between healthcare professionals and patients in all phases of hospitalization.

Keywords

patient participation, hospital, nutritional care, protein-energy malnutrition, perioperative care, experiences

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Introduction

Malnutrition is defined as a state resulting from lack of intake or uptake of nutrition, leading to altered body composition and body cell mass, diminished physical and mental function and poor clinical outcomes from disease (Cederholm et al., 2017; Cederholm et al., 2019). Malnutrition has consequences for both the individual and the health care system (Allard et al., 2016; Alley et al., 2010). Patients suffer from increased morbidity, having higher complication rates and reduced physical performance and quality of life. Policy-makers note that malnutrition leads to a significant budget burden: more medication use, more extended hospital stays, more re-admissions, and more nursing care (Bala et al., 2020; Curtis et al., 2017). Malnutrition in hospital surgical wards is a considerable problem, with a prevalence rate of

15% upon admission and 33% at discharge (Bonetti et al., 2017; van Vliet et al., 2020). For patients admitted to hospital, barriers in food intake are common. Keller et al. (2015) described the prevalence of food-related hospital experiences

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of patients in acute care hospitals. Patients reported that organizational disruptions in food availability, eating difficulties, and effects of illness on food intake are major problems during hospitalization (Keller et al., 2015). Thereby, the combination of surgery, anesthesia, and the perioperative course reflects a sum of physical and psychological stress responses with consequences for appetite, digestion, and defecation (West et al., 2017).

Early identification and treatment of malnutrition is essential to counteract and prevent or reverse adverse outcomes effectively (Barker et al., 2011). Screening and assessment of each patient's nutritional status and requirements should occur at the outpatients' clinic, before surgery and at hospital admission (Cederholm et al., 2017; van Bokhorst-de van der Schueren et al., 2014). For malnourished patients, a nutrition care plan is a medical priority to optimize the patient's nutritional status. And a clear nutritional pathway to indicate required actions before, during, and after hospitalization is the basis of ensuring that appropriate nutritional care is established (Weimann et al., 2021).

Review of Literature

Historically, the daily responsibility for optimal nutritional care has been in the hands of the nursing staff, embedded in the fundamentals of care framework (Kitson et al., 2010; Kitson, 2018). Nutritional care involves a multidisciplinary collaboration with healthcare professionals and patients themselves. Dietitians and nurses both play key roles in these nutritional care plans. Dietitians assess the patient's dietary needs, provide effective evidence-based medical nutrition therapy, and support patients, family caregivers, and staff (Cederholm et al., 2017; Marshall et al., 2017). Nurses have a distinct role in early identification of malnutrition and risk factors through activities such as monitoring intake, overseeing length of fasting periods, assessing preferences, disabilities and needs for (assistance to) eat or drink (Sauer et al., 2016).

Patient participation in healthcare decision making is important to empower patients and to improve services and health outcomes; it is regarded as a legal right of patients and a gold standard for healthcare systems (Vahdat et al., 2014). Patient participation aims to include the patient in the healthcare system, but there has yet to be a transparent conceptual model of the definition (Halabi et al., 2020). In 2015, Tobiano defined various barriers to patient participation in nursing care. In the hospital setting, challenging factors are patients' willingness, nurses' approach, and confusion about expectations and roles (Tobiano et al., 2015). Healthcare professionals note that increasing patient participation in malnutrition care is crucial in daily practice. When patients are empowered in awareness of malnutrition risk factors and have their role in (for example) monitoring food intake, they will be better equipped to improve their nutritional status actively. However, nurses also wonder

whether it is feasible when the patient is frail or very ill (Van Den Berg et al.). The role of the patient in hospital nutritional care and their perception about malnutrition and outcomes is hardly described in the literature (Sladdin et al., 2017; Vaillancourt et al., 2014; Weimann et al., 2021). In the nursing home rehabilitation setting, a study from Van Zwiene-Pot et al. described patients' self-perception of nutritional status, whereby patients did not consider themselves undernourished, even if they were (van Zwiene-Pot et al., 2017). Literature also lacks details on how health care professionals can best support patients' efforts to participate in malnutrition care. If we knew more about the perception of patients in the nutritional care process and their role in malnutrition care through hospitalization, we would be able to explore approaches healthcare professionals can take to accommodate patient participation in perioperative nutritional care. This study aims twofold: to investigate patients' experiences with nutritional care in the perioperative period of hospitalization and their thoughts about their role in participating in malnutrition care.

Methods

Study Design

A qualitative longitudinal study design with a thematic analysis of semi-structured interviews was conducted in a university hospital. The study was reported, according to the 32-item checklist of consolidated criteria for reporting qualitative research (COREQ) (Tong et al., 2007). According to the Malnutrition Universal Screening Tool (MUST), patients at risk of malnutrition were interviewed between May and December 2016 and asked for their opinion about self-management in nutritional care. Patients at moderate nutrition risk (MUST score 1) were informed with a brochure on how to eat food rich in energy and protein (van Noort et al., 2020). Patients at high risk of malnutrition (MUST score ≥ 2) were referred to a dietitian for individualized dietetic counseling. Experiences and needs change over time and are affected by diagnostic or therapeutic procedures. Therefore, we conducted the interviews longitudinally at three time points: (1) before hospitalization, after preoperative screening; (2) during hospitalization or within 1 week after discharge, and (3) 2 months after discharge. This interview study was inspired by Heidegger's hermeneutic interpretive phenomenological concept (Errasti-Ibarrondo et al., 2019; van Manen, 2017) and performed following Benner's thematic analysis to address nutritional care as an essential nursing skill (Crist & Tanner, 2003; Ho et al., 2017). The researchers reflected on their background as a dietitian (first author) or nurse (last author) to develop self-awareness of "taken-for-granted" thinking and to disclose the unspoken meanings hidden in participants' language. The researchers were familiar with the barriers to food intake in patients with malnutrition.

Table 1. Interview Topic Guide.

Topic	Question
Perceived malnutrition risk	Can you tell me your experiences with malnutrition? - In your opinion, what does screening for malnutrition mean? - Can you explain what 'being at risk of malnutrition' means to you?
Perceived support in nutritional care against malnutrition	Can you tell me what you think about the nutritional support you received from your nurse? - What activities did the nurse carry out to reduce the risk of malnutrition? - What did you expect from the nurse? - What did you miss in nutritional support? - What were you most in need of?
Perceived responsibilities	What do you think is responsibility of a patient him(her)self to improve his (her) nutritional status? And what is in your opinion the responsibility of the nurse? - What actions did you take yourself to improve your nutritional status? - Are there actions you could have taken to improve your nutritional status?

Ethical Considerations

The study was performed in accordance with the Declaration of Helsinki and the study protocol was reviewed by the Radboudumc Human Ethics Committee Arnhem and Nijmegen (Reference 2014-1353). The committee decided that the Medical Research Involving Human Subjects Act (WMO) did not apply to this study. This interview study was conducted in a tertiary university teaching hospital; the Radboud university medical center in the Netherlands.

Participant Recruitment

Patients who visited the hospital outpatient anesthesiology clinic were screened for eligibility during their preoperative screening. Those who met inclusion criteria (screened to be at moderate or high risk of malnutrition and aged 18 years or older) were asked for willingness to participate in the study by a registered nurse at the outpatient clinic. The researcher (first or last author) then contacted potential participants by phone, explained the study, and, after the consent, asked them to sign and send back the written informed consent form. Patients were given one day to consider taking part in the study. The study aimed to achieve a diverse sample concerning gender, age, type of surgery, and moderate or high risk of malnutrition according to the MUST. Thereby, the patient's appetite was assessed using the Visual Analogue Scale (0–10) (Blauwhoff-Buskermolen et al., 2016) and, with permission, health-related quality of life score using EQ-5D-5L (Versteegh et al., 2016). Exclusion criteria were (a) the patient did not speak Dutch, (b) the patient had a speaking or hearing impairment, and (c) the patient was severely mentally impaired.

Interviews

The interviews were undertaken to explore detailed and individual perspectives, thoughts, behaviors, and experiences on

nutritional care over time. A topic guide was developed by the researchers (first and last author) to guide the semi-structured interviews (Table 1). The interview guide was based on the researchers' working experiences as a dietitian and nurse, together with literature on patients' experiences of access to food (Naithani et al., 2009), identified barriers to nutritional care from the perspective of nurses (Eide et al., 2015) and, a description of eating practices in the hospital (Xia & McCutcheon, 2006). The questions explored perceptions of being at risk of malnutrition, expectation and anticipation regarding nutritional care, and barriers and facilitators for self-management in nutritional care in the perioperative period, that is, before, during, and after a hospital stay. Following the patient's written consent, interviews were held by telephone or face-to-face at the patient's bedside or during a hospital visit. Interviews were conducted until no additional information was found and data saturation was reached. The interviews were recorded using a voice recorder (Sony IC recorder ICD-UX70), and written notes were taken. The interviews were pilot tested with family members and BSc students in nursing and nutrition and dietetics. The first interviews with the patients in the preoperative phase of hospitalization were held by the researchers (first and last author) together with four junior researchers (graduate students of the BSc in Nursing and the BSc Nutrition and Dietetics). The junior researchers were trained in interview techniques through a module in Quality Research integrated into their Graduate program, and the researchers supervised them (first and last author). The first and last authors themselves held all other interviews. Data saturation was reached by the 50th interview and 22nd patient. Four extra patients (six interviews) had already been planned and were included additionally, which provided added assurance of data saturation. The mean duration of all 56 interviews was 12:34 (\pm 5:18) minutes. The three time points, before (T1), during and directly after (T2), and 2 months after (T3) hospitalization, had different interview lengths. The mean duration of the interviews per time point

Table 2. Participant Characteristics.

Characteristic	Participants (n = 26) N (%), mean (SD) or median (IQR)
Age (years)	61.4 (± 17.6)
Sex (female)	21 (80.8%)
Educational level (n = 23)	
High school graduate	11 (47.8%)
Professional certificate	6 (26.1%)
Bachelor's degree	3 (13.0%)
Master's degree	3 (13.0%)
Dutch origin (yes/no)	25/1 (96%/4%)
BMI (kg/m ²) (n = 22)	20.6 (± 3.5)
Health related Quality of Life (n = 21)	
EQ-5D-5L VAS Health (1–100)	71 (± 21)
Appetite VAS (1–10) (n = 16)	6 (5–9)
MUST (outpatient clinic)	
Score 1, moderate risk of malnutrition	15 (57.7%)
Score 2, high risk of malnutrition	11 (42.3%)
MUST (on admission)	
Screening absent	8 (30.8%)
Score 0, no risk of malnutrition	5 (19.2%)
Score 1, moderate risk of malnutrition	4 (15.4%)
Score 2, high risk of malnutrition	9 (34.6%)
Time between pre-operative outpatient	
Visit and hospital admission (days)	35.0 (14–64)
Length of hospital stay (days)	3.5 (1–7)

Note. BMI = body mass index; MUST = malnutrition universal screening tool; VAS = visual analogue scale.

was T1; 15:37 (± 4:44) minutes (26 interviews), T2; 12:03 (± 4:48) minutes (14 interviews), and T3; 8:57 (± 4:16) minutes (14 interviews).

Data Analysis

All interviews were transcribed verbatim and analyzed using the qualitative research software Atlas-ti version 8. Thematic analysis was done by open coding the interview transcripts by the researchers (first author and bachelor students) independently. Discrepancies were discussed with the supervisor (last author) to reach a consensus for the final codes. Meaningful parts describing experiences and actions were defined and conceptualized into thematic codes and, according to content, summarized in an iterative process into overall categories in terms of aspects of patient awareness of malnutrition and needs and expectations in the responsibility of good nutritional status when eating is no longer self-evident.

Results

Participants' Characteristics

Of 47 patients asked to participate, 26 patients gave their consent. One patient dropped out after the second interview

and was removed from the analyses. The main reason for not participating was no affinity with the topic, and other reasons were being too busy and having other things on their mind. Five men and 21 women, aged between 25 and 89, participated in the study. Table 2 shows the participants' characteristics. In total, 56 interviews were held with the participants. All 26 patients were interviewed before hospital admission, 16 patients during hospitalization or directly after discharge, and 14 were interviewed 2 months after discharge. See Figure 1 for an overview of the study flow. The most common surgical procedures were oncologic gastrointestinal (n = 7), orthopedic (n = 4), and head and neck (n = 4) surgery. Supplement 1 shows detailed information about the participants' characteristics.

Patients' Experiences of Nutritional Care in the Peri-Operative Period of Hospitalization

Supplement 2 visualizes the process from open to selective coding and constructing the themes.

Theme 1: Unawareness and Stigma. Less than half of the patients were aware of malnutrition risk after visiting the pre-operative clinic and before undergoing surgery. Some patients were concerned about it; others said that malnutrition did not affect them or that they did not perceive it as a problem.

They told me: 'You underwent two surgeries in a short time so that you will lose weight automatically...after a while, that will be back. You do not have genuine health problems in the long term, so your weight loss won't be a problem'...well, I eat normal like I always did. (1, interview 13.4)

Sometimes there was an aversion to the definition; patients said that they would not call it malnutrition or label weight loss as a risk factor; they mentioned they always were thin and did not experience problems with that so far. Some patients thought malnutrition was stigmatizing; they reacted with criticism regarding the terminology and commented that it was overdone and did not apply to their situation. They associated malnutrition with a war situation, of which one patient told about personal experiences of malnutrition during the war.

I think this sounds pretty heavy; I think it is more...uhm, about being too light weighted. (2, interview 4.1). It sounds strange to me, yes, more like a war situation; during the war you were, you could become malnourished. (1, interview 5.1)

Regarding the advantages of adequate nutrition for recovery, seven patients mentioned they did not experience any

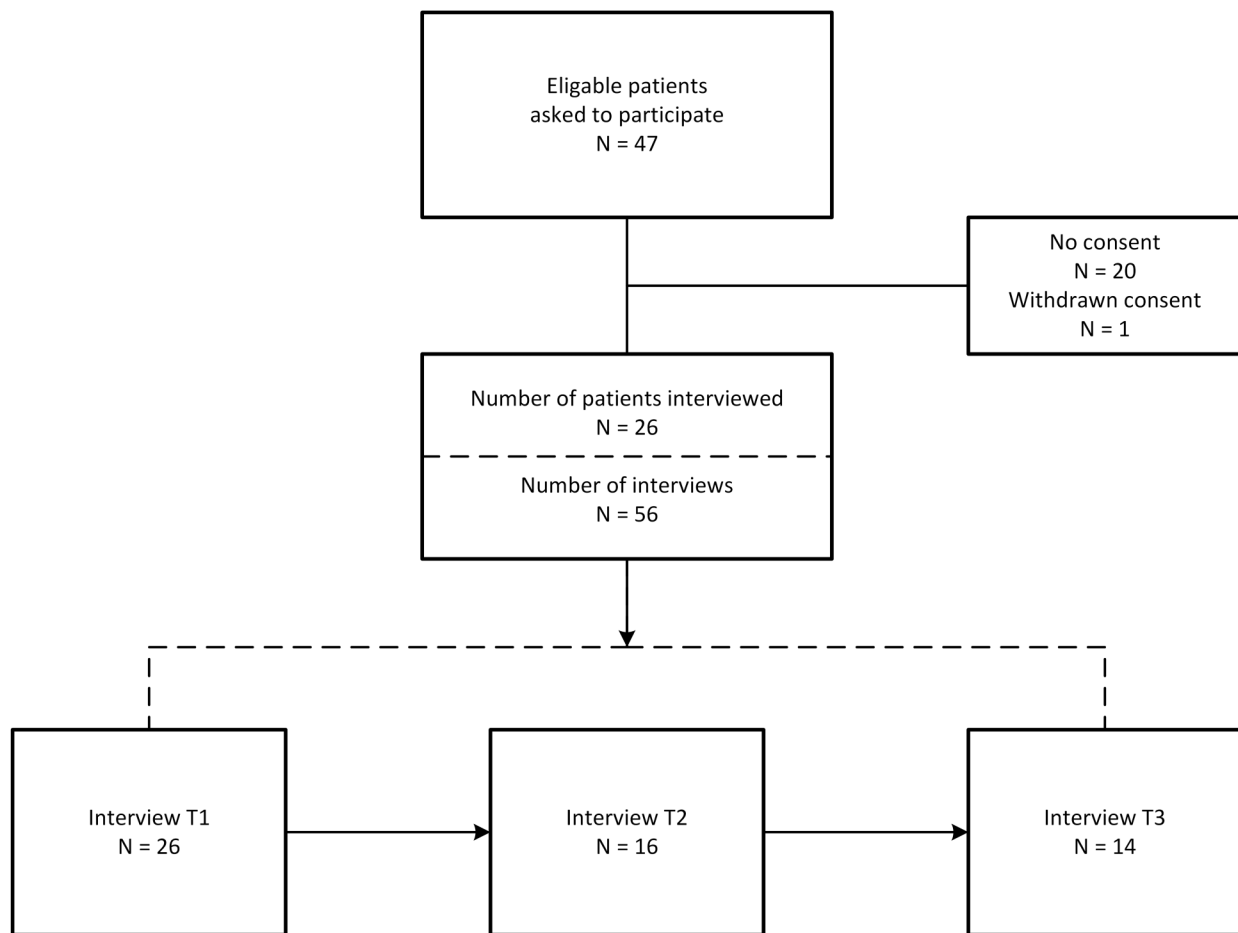


Figure 1. Study flow.

necessity for support in nutritional care because their nutrition knowledge was sufficient to eat right or their need for support was only to be discussed when they experienced problems in their nutritional status, which was not the case.

How serious is it? I mean, I can lose some weight; I am overweight. For now, there is much attention to eating well, and I should not lose weight, but that is a risk factor for me in the longer term. (1, interview 2.2)

During the visit to the outpatient clinic, most patients remembered having been asked for their weight, weight history, or BMI. For two patients, weight had also been measured. Upon admission, none of the patients remembered having been screened for malnutrition nor being asked for weight, weight course, or BMI. The patients who mentioned that they were aware of unintentional weight loss had tried to increase their body weight from pre-operative screening until post-discharge. Some of them also for a longer time after hospital discharge. Overall, patients were more or less aware of malnutrition risk before, during, and after hospitalization, and awareness remained relatively the same over time.

Theme 2: Feasibility of Nutritional Care in Malnutrition. Four patients remembered receiving information from the nurse telling them how to optimize their nutritional status or by receiving a leaflet. Others mentioned receiving many leaflets after the visit to the outpatient clinic; perhaps this also contained nutritional advice, but they would have to search for that. When patients had nutritional problems and needed extra help in nutritional support, they said that they would first contact the general practitioner. Older patients mentioned they would ask for help from their family or consult a healthcare professional like a nurse, case manager, or physician. Some patients said they would search the internet for information or study the written information they had received in the hospital. A few patients remembered receiving specific instructions at the outpatient clinic to monitor weight and contact a dietitian. Eight patients said they had received a dietary intervention from a dietitian and experienced clear dietary advice on improving their nutritional status. However, the diet was often not feasible to carry out because the patient perceived that the food volume would be excessive. Appetite loss, pain, or physical problems hindered them from finishing meals.

Well, the dietitian, yes, I received a long list of what I could eat daily. That was almost impossible for me, because it was just too much. (6, interview 4.1)

Patients sometimes also experienced much pressure to eat more, especially when barriers to eating were neglected. Despite good family support, patients mentioned sometimes feeling lonely with their diet and indicated that they needed more coaching from healthcare professionals to comply with nutritional care, deal with the side effects of malnutrition, and reach the dietary treatment goals.

It is hard to comply; you have to eat again and again. I am not used to doing that; I have always been sober with food. Well, you get enough of it. (5, interview 3.1)

The Patients' Perception of Own Responsibilities in Self-Management

Theme 3: Needs and Expectations for Self-Management in Nutritional Care. Five patients signaled to be interested in extra support like additional nutritional information or tips and tricks on eating well, especially before surgery, to enhance nutritional intake. Before surgery and during their hospital stay, almost all patients mentioned that it did not bother them or that they expected that all would be better after surgery (i.e., appetite, food intake, symptoms).

I also think; after the operation, I will feel better and experience less pain so that the malnutrition will improve faster. (5, interview 11.1)

After discharge, most patients said they searched for foods and drinks they preferred to eat more. Following the provided dietary guidance, these could be dairy products or extra in-between meals. The follow-up of the prescribed diet or advice on how to eat right to increase weight and strength was described by all patients as their responsibility, and they had learned how to react to weight changes. A healthy diet with fresh food, vegetables, grains, and fruit, as healthy eating patterns, was often mentioned as necessary.

Occasionally I weigh myself on the scale, but only sometimes. I will keep an eye on my weight. In case of weight loss, I will have more attention to my diet and eat extra. I know by now how to maintain weight (eat regularly and extra snacks, do not pass breakfast and lunch, choose fresh food and full-fat dairy products). I am not a big eater; I cannot do that 'go eating'. If you are not a big eater, you do not often feel that hungry, which makes it difficult. (8, interview 4.1)

Some patients said they believed searching for information on the internet is essential. Others were more cautious about this because of conflicting information or fake news and were more confident with the information they had

received in the hospital. Seventeen patients had the opinion that monitoring their nutritional status is essential.

They told me that I should monitor myself and that when it gets worse or my intake worsens, I should consult a dietitian. Right now, I know what I can eat and what I should not eat. (1, interview 7.1)

Theme 4: Barriers and Facilitators of Own Responsibilities. Patients mentioned receiving the correct information from their healthcare professional and their support in whatever they needed to comply with their dietary regimes or oral nutritional supplements. For example, comments about the nutritional status helped the patient be aware of nutrition's importance before and after surgery and actively work on it. Moreover, support from relatives or friends made it easier to reach goals such as meeting milestones in weight change or nutritional intake.

I will get the comments when I do not eat well enough! (9, interview 4.1)

Also, lifestyle aspects like physical exercise, cooking, and meal planning throughout the day, as well as companionship while eating, were mentioned by almost all patients as helpful to distract from the symptoms.

New recipes and innovative things, we both thought, oh, nice! You know, it invites you to get some variation in food and new healthy dishes. So yes, that helps for sure, and together working on that. Sometimes it is difficult to eat a varied diet, so what should I make today? Sometimes you need inspiration for what is healthy and good for you. (12, interview 11.1)

During their hospital stay, patients mentioned that the small servings of food and drinks distributed every several hours during the day were helpful to keep on eating, even when nauseous or in pain. They tried to continue this at home, though the family eating pattern was hard to change back home. A lack of individualization was experienced as a barrier; it is challenging to self-manage malnutritional care effectively when the family schedule is full of obligations and routines. Also, all patients experienced that it was challenging to reach nutritional goals independently as long as they were ill. They mentioned it was hard to comply with an energy and protein-enriched diet, and depending on symptoms like pain, nausea, and appetite, how feasible it was to reach nutritional goals. Almost all patients mentioned that it is complex to improve weight while appetite loss, nausea, vomiting, pain, and anxiety or concerns about health persist.

Discussion

This study aimed to provide insight into the experiences and needs of surgical patients in the perioperative period to

participate in malnutrition care actively. The qualitative design with a hermeneutic interpretive phenomenological approach identified important issues of nutritional care related to self-management and own responsibilities in patients undergoing surgical treatment. The results revealed four themes: unawareness and stigma about being malnourished, the feasibility of optimal nutritional care, needs and expectations for self-management, and barriers and facilitators to self-directed nutritional care.

The central perception in this study was that the awareness of patients about the risk of malnutrition had different dimensions. A minority of the patients perceived malnutrition as a severe condition and experienced adverse effects of weight loss or being underweight on their activities, physical condition, and lassitude. Other patients disagreed or did not recognize the “heavily expressed definition.” For nurses, that is a call for action to actively communicate with patients about (mal)nutrition risk factors in the patient journey of hospitalization. Nurses could educate patients during all phases of hospitalization on the benefits of improved nutritional intake to help them understand the importance of good food on their nutritional status, physical condition, and clinical outcomes. In our study, information sharing by nurses about malnutrition risk scores and the consequences of malnutrition on rehabilitation after surgery was mainly limited to advising to read information brochures or consulting a dietitian for nutritional support.

In the literature, Lassen et al. described in a qualitative analysis of patients’ perspectives on hospital nutritional care that inpatients were conscious of the importance of meals and food intake for successful recovery. However, during hospitalization, nutritional care was not part of the nursing care regimen (Lassen et al., 2005). In our study, the awareness of patients about the role of malnutrition related to treatment outcomes like post-surgical complications, successful rehabilitation, and quality of life was generally low. It did not change remarkably in the timeline from (pre)hospitalization to post-discharge. A small group of patients, who had already been prescribed medical nutrition therapy by a dietitian, was aware of the importance of their diet. However, they perceived it as sometimes challenging to comply with the recommendations. Treatment goals were mentioned as difficult to reach through barriers to food intake like appetite loss, negative experiences with food, side effects of medical treatment, pain, or anxiety. Patients with severe illness or major surgery specifically mentioned this. Nevertheless, patients found that following dietary advice in malnutrition is an aspect of self-management. Searching for information about good food, ingredients, and recipes and continuing to cook and eat was perceived as their responsibility, despite a poor appetite.

Weight gain was perceived as complex by patients who always had a low body weight. Often patients were not told what time it takes to improve body weight, and the patients only sometimes felt the importance of increasing

weight. The struggle to eat what you need is a phenomenon that can substantially increase pressure and anxiety, often seen in patients after major gastrointestinal and oncologic surgery (Cooper et al., 2015). Improving nutritional status after surgery is more challenging for patients with low body mass index and post-operative complications (Grass et al., 2016). In another study by Grass et al., compliance with preoperative nutritional interventions was hypothesized to be primarily a question of will, information, and patient support. The authors call for action in patient-centered care to focus on specific patient education to improve patient information and support them in nutritional care (Grass et al., 2015). Nurses’ efforts to incorporate patients’ perspectives into the dietary intervention and to be responsive to patients’ dietary problems and needs are beneficial (Kim et al., 2014). For example, nurses can actively invite patients to list their preferences in the type of cuisine, food items, amounts, mealtimes, and preparation method (e.g., boiling, frying, seasoning). Also, nurses can coach patients to set up their nutritional care plan and record their own food intake.

Attention to the needs of individuals regarding food preferences, mealtimes, and grocery shopping are essential subjects of the conversation to actively involve patients and increase patient participation and own responsibilities, which could improve health outcomes (Cooper et al., 2015; Reedy et al., 2005). In our study, facilitators mentioned by the patients to benefit from intake were being aware of the importance of nutrition, having a healthy lifestyle (exercise, daily routines), receiving family support, preparing tasteful meals, and consuming oral nutritional supplements. Patients expected nurses and dietitians should support information on how to counteract nutritional deficits and improve nutritional status; their support was needed to understand and implement the information provided. For example, knowledge about nutritional aspects of the diet and where to find information about the availability of protein-enriched foods was expected to be shared through individual counseling, not only by information brochures. Therefore, individual counseling should include patient-centered goal setting to gain weight and improve physical performance. In addition, nurses and dietitians should pay attention in their counseling to the timeframe needed to expect results in changes in nutritional status, for example, weight gain and physical performance.

Strength and Limitations

The longitudinal design of the interviews was an essential strength of the study. It facilitated insight into adapting care needs through disease and treatment over time. All participants were enrolled before hospitalization and selected through purposive sampling by the nurse at the outpatient clinic to provide rich, relevant, and diverse data (Draper & Swift, 2011). The time frame between pre-operative screening and hospital admission and follow-up was long enough to give insight into the perceived care, needs, and opportunities

in patient participation. The participants' demographics were consistent with the disease demographics, and patients were recruited from urban and rural areas in the eastern part of the Netherlands. The sample size and the number of interviews ensured data saturation. The patients' perspectives provided valuable information for future nursing nutritional interventions to improve patient participation in hospital nutritional care. However, some limitations need to be acknowledged. The majority of the participants were female. Food skills, food literacy, and the effectiveness of a nutrition intervention on energy and protein intake could differ between women and men. The fact that only five participants in this study were male could have influenced the perception of being diagnosed as malnourished and the feasibility of the applied nutrition instructions (Campbell et al., 2008; O'Doherty Jensen & Holm, 1999). Second, patient recruitment using MUST score of 1 or 2 in the outpatient clinic resulted in the participation of patients with predominantly a low average BMI. Only a limited number of patients with overweight were represented. Also, referral to the dietitian was only extracted from the qualitative data; participants described their experiences with dietary counseling from dietitians and nurses. The actual referral rate to a dietitian was not measured. Finally, the interviews were conducted by two experienced interviewers (first and last author) together with four trained junior researchers, students of the BSc Nursing and BSc Nutrition and Dietetics in their last year before graduation. Although pilot interviewing was done, the first and last author supervised the students, and the interview transcripts did not show differences between the senior and junior researchers, the interview techniques of student interviewers may have influenced the use of the interview guide and could have affected some patient responses. We did not have indications, but the experiences.

Implications for Practice

Patients expect that information on how to counteract nutritional deficits and improve nutritional status is supported by nurses, dietitians, and the general practitioner. Knowledge about nutritional aspects of the diet and where to find information about the availability of protein-enriched foods should be shared through individual counseling, not only by information brochures. Also, patient-centered goal setting, counseling to gain weight and physical performance, and being aware of the timeframe to expect results and better patient outcomes are prerequisites for patient participation in nutritional care.

Conclusion

This study provides insight into patients' experiences and perspectives in involvement and decision-making regarding malnutrition care before, during, and after hospitalization. In conclusion, the data of this qualitative study indicated that essential elements of patient participation and decision-

making in malnutrition care are awareness of malnutrition risk factors and associated dietary problems and care needs and responsiveness to the patient's perspectives and motivation in dietary follow-up. In all phases of hospitalization, good communication between general practitioners, physicians, nurses, and dietitians with patients and each other is minimally necessary to bring about patient participation in malnutrition care. A nursing nutritional intervention could improve communication and patient participation by consciousness-raising of nutritional needs, individual preferences, and expected results in nutritional status during hospitalization and at home in the pre- and post-operative phase of surgery. In a future study, our group will study the impact of such a program.

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Author Contributions

Gerda van den Berg and Getty Huisman-de Waal were responsible for the study design, the inclusion of patients in the study, the data collection and the analysis, the supervision of the participating nursing students and dietetics, and the writing of the manuscript. Marian de van der Schueren and Hester Vermeulen participated in the development of the study design, the data analysis, and writing of the manuscript.


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Supplemental Material

Supplemental material for this article is available online.

References

- Allard, J. P., Keller, H., Jeejeebhoy, K. N., Laporte, M., Duerksen, D. R., Gramlich, L., & Lou, W. (2016). Malnutrition at hospital

- admission-contributors and effect on length of stay: A prospective cohort study from the Canadian malnutrition task force. *Journal of Parenteral and Enteral Nutrition*, 40(4), 487–497. <https://doi.org/10.1177/0148607114567902>
- Alley, D. E., A Koster., D Mackey., P Cawthon., L Ferrucci., E. M Simonsick., & Body Composition, S. (2010). Hospitalization and change in body composition and strength in a population-based cohort of older persons. *Journal of the American Geriatrics Society*, 58(11), 2085–2091. <https://doi.org/10.1111/j.1532-5415.2010.03144.x>
- Bala, A., Ivanov, D. V., Huddleston, J. I., Goodman, S. B., Maloney, W. J., & Amanatullah, D. F. (2020). The cost of malnutrition in total joint arthroplasty. *Journal of Arthroplasty*, 35(4), 926–932.e921. <https://doi.org/10.1016/j.arth.2019.11.018>
- Barker, L. A., Gout, B. S., & Crowe, T. C. (2011). Hospital malnutrition: Prevalence, identification and impact on patients and the healthcare system. *International Journal of Environmental Research and Public Health*, 8(2), 514–527. <https://doi.org/10.3390/ijerph8020514>
- Blauwhoff-Buskermolen, S., Ruijgrok, C., Ostelo, R. W., de Vet, H. C. W., Verheul, H. M. W., de van der Schueren, M. A. E., & Langius, J. A. E. (2016). The assessment of anorexia in patients with cancer: Cut-off values for the FAACT-A/CS and the VAS for appetite. *Supportive Care in Cancer*, 24(2), 661–666. <https://doi.org/10.1007/s00520-015-2826-2>
- Bonetti, L., Terzoni, S., Lusignani, M., Negri, M., Frolidi, M., & Destrebecq, A. (2017). Prevalence of malnutrition among older people in medical and surgical wards in hospital and quality of nutritional care: A multicenter, cross-sectional study. *Journal of Clinical Nursing*, 26(23–24), 5082–5092. <https://doi.org/10.1111/jocn.14051>
- Campbell, K. L., Ash, S., Davies, P. S. W., & Bauer, J. D. (2008). Randomized controlled trial of nutritional counseling on body composition and dietary intake in severe CKD. *American Journal of Kidney Diseases*, 51(5), 748–758. <https://doi.org/10.1053/j.ajkd.2007.12.015>
- Cederholm, T., Barazzoni, R., Austin, P., Ballmer, P., Biolo, G., Bischoff, S. C., & Singer, P. (2017). ESPEN Guidelines on definitions and terminology of clinical nutrition. *Clinical Nutrition*, 36(1), 49–64. <https://doi.org/10.1016/j.clnu.2016.09.004>
- Cederholm, T., Jensen, G. L., Correia, M., Gonzalez, M. C., Fukushima, R., & Higashiguchi, T., Glim Core Leadership Committee, G. W. G. (2019). GLIM Criteria for the diagnosis of malnutrition: A consensus report from the global clinical nutrition community. *Journal of Cachexia, Sarcopenia and Muscle*, 10(1), 207–217. <https://doi.org/10.1002/jcsm.12383>
- Cooper, C., Burden, S. T., & Molassiotis, A. (2015). An explorative study of the views and experiences of food and weight loss in patients with operable pancreatic cancer perioperatively and following surgical intervention. *Supportive Care in Cancer*, 23(4), 1025–1033. <https://doi.org/10.1007/s00520-014-2455-1>
- Crist, J. D., & Tanner, C. A. (2003). Interpretation/analysis methods in hermeneutic interpretive phenomenology. *Nursing Research*, 52(3), 202–205. <https://doi.org/10.1097/00006199-200305000-00011>
- Curtis, L. J., Bernier, P., Jeejeebhoy, K., Allard, J., Duerksen, D., Gramlich, L., & Keller, H. H. (2017). Costs of hospital malnutrition. *Clinical Nutrition*, 36(5), 1391–1396. <https://doi.org/10.1016/j.clnu.2016.09.009>
- Draper, A., & Swift, J. A. (2011). Qualitative research in nutrition and dietetics: Data collection issues. *Journal of Human Nutrition and Dietetics*, 24(1), 3–12. <https://doi.org/10.1111/j.1365-277X.2010.01117.x>
- Eide, H. D., Halvorsen, K., & Almendingen, K. (2015). Barriers to nutritional care for the undernourished hospitalised elderly: Perspectives of nurses. *Journal of Clinical Nursing*, 24(5–6), 696–706. <https://doi.org/10.1111/jocn.12562>
- Errasti-Ibarondo, B., Jordan, J. A., Diez-Del-Corral, M. P., & Arantzamendi, M. (2019). Van manen’s phenomenology of practice: How can it contribute to nursing? *Nursing Inquiry*, 26(1), e12259. <https://doi.org/10.1111/nin.12259>
- Grass, F., Benoit, M., Coti Bertrand, P., Sola, J., Schafer, M., Demartines, N., & Hubner, M. (2016). Nutritional status deteriorates postoperatively despite preoperative nutritional support. *Annals of Nutrition and Metabolism*, 68(4), 291–297. <https://doi.org/10.1159/000447368>
- Grass, F., Bertrand, P. C., Schäfer, M., Ballabeni, P., Cerantola, Y., Demartines, N., & Hübner, M. (2015). Compliance with preoperative oral nutritional supplements in patients at nutritional risk—only a question of will? *European Journal of Clinical Nutrition*, 69(4), 525–529. <https://doi.org/10.1038/ejcn.2014.285>
- Halabi, I. O., Scholtes, B., Voz, B., Gillain, N., Durieux, N., Odero, A., & Group, A. I. (2020). “Patient participation” and related concepts: A scoping review on their dimensional composition. *Patient Education and Counseling*, 103(1), 5–14. <https://doi.org/10.1016/j.pec.2019.08.001>
- Ho, K. H. M., Chiang, V. C. L., & Leung, D. (2017). Hermeneutic phenomenological analysis: The ‘possibility’ beyond ‘actuality’ in thematic analysis. *Journal of Advanced Nursing*, 73(7), 1757–1766. <https://doi.org/10.1111/jan.13255>
- Keller, H., Allard, J., Vesnaver, E., Laporte, M., Gramlich, L., Bernier, P., Davidson, B., Duerksen, D., Jeejeebhoy, K., & Payette, H. (2015). Barriers to food intake in acute care hospitals: A report of the Canadian Malnutrition Task Force. *Journal of Human Nutrition and Dietetics*, 28(6), 546–557. <https://doi.org/10.1111/jhn.12314>
- Kim, H., Suh, E., Lee, H., & Yang, H. (2014). The effects of patient participation-based dietary intervention on nutritional and functional status for patients with gastrectomy: A randomized controlled trial [randomized controlled trial; research support, non-U.S. Gov’t]. *Cancer Nursing*, 37(2), E10–E20. <https://doi.org/10.1097/NCC.0b013e31829193c8>
- Kitson, A., Conroy, T., Wengstrom, Y., Profetto-McGrath, J., & Robertson-Malt, S. (2010). Defining the fundamentals of care. *International Journal of Nursing Practice*, 16(4), 423–434. <https://doi.org/10.1111/j.1440-172X.2010.01861.x>
- Kitson, A. L. (2018). The fundamentals of care framework as a point-of-care nursing theory. *Nursing Research*, 67(2), 99–107. <https://doi.org/10.1097/NNR.0000000000000271>
- Lassen, K. O., Kruse, F., & Bjerrum, M. (2005). Nutritional care of Danish medical inpatients—patients’ perspectives. *Scandinavian Journal of Caring Science*, 19(3), 259–267. <https://doi.org/10.1111/j.1471-6712.2005.00337.x>
- Marshall, S., Agarwal, E., Young, A., & Isenring, E. (2017). Role of domiciliary and family carers in individualised nutrition support for older adults living in the community. *Maturitas*, 98(1), 20–29. <https://doi.org/10.1016/j.maturitas.2017.01.004>
- Naithani, S., Thomas, J. E., Whelan, K., Morgan, M., & Gulliford, M. C. (2009). Experiences of food access in hospital. A new

- questionnaire measure. *Clinical Nutrition*, 28(6), 625–630. <https://doi.org/10.1016/j.clnu.2009.04.020>
- O'Doherty Jensen, K., & Holm, L. (1999). Preferences, quantities and concerns: Socio-cultural perspectives on the gendered consumption of foods. *European Journal of Clinical Nutrition*, 53(5), 351–359. <https://doi.org/10.1038/sj.ejcn.1600767>
- Reedy, J., Haines, P. S., Steckler, A., & Campbell, M. K. (2005). Qualitative comparison of dietary choices and dietary supplement use among older adults with and without a history of colorectal cancer. *Journal of Nutrition Education and Behavior*, 37(5), 252–258. [https://doi.org/10.1016/S1499-4046\(06\)60280-7](https://doi.org/10.1016/S1499-4046(06)60280-7)
- Sauer, A. C., Alish, C. J., Strausbaugh, K., West, K., & Quatrara, B. (2016). Nurses needed: Identifying malnutrition in hospitalized older adults. *NursingPlus Open*, 2(1), 21–25. <https://doi.org/10.1016/j.npls.2016.05.001>
- Sladdin, I., Ball, L., Bull, C., & Chaboyer, W. (2017). Patient-centred care to improve dietetic practice: An integrative review. *Journal of Human Nutrition and Dietetics*, 30(4), 453–470. <https://doi.org/10.1111/jhn.12444>
- Tobiano, G., Marshall, A., Bucknall, T., & Chaboyer, W. (2015). Patient participation in nursing care on medical wards: An integrative review. *International Journal of Nursing Studies*, 52(6), 1107–1120. <https://doi.org/10.1016/j.ijnurstu.2015.02.010>
- Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, 19(6), 349–357. <https://doi.org/10.1093/intqhc/mzm042>
- Vahdat, S., Hamzehgardeshi, L., Hessam, S., & Hamzehgardeshi, Z. (2014). Patient involvement in health care decision making: A review. *Iranian Red Crescent Medical Journal*, 16(1), e12454. <https://doi.org/10.5812/ircmj.12454>
- Vaillancourt, H., Legare, F., Lapointe, A., Deschenes, S. M., & Desroches, S. (2014). Assessing patients' involvement in decision making during the nutritional consultation with a dietitian. *Health Expectations* 17(4), 545–554. <https://doi.org/10.1111/j.1369-7625.2012.00783.x>
- van Bokhorst-de van der Schueren, M. A., Guaitoli, P. R., Jansma, E. P., & de Vet, H. C. (2014). Nutrition screening tools: Does one size fit all? A systematic review of screening tools for the hospital setting. *Clinical Nutrition*, 33(1), 39–58. <https://doi.org/10.1016/j.clnu.2013.04.008>
- Van Den Berg, G., Vermeulen, H., Conroy, T., Van Noort, H., De Van Der Schueren, M., & Huisman-de Waal, G. Factors influencing the delivery of nutritional care by nurses for hospitalised medical patients with malnutrition; a qualitative study. *Journal of Clinical Nursing*, 32(15-16), 5147–5159. <https://doi.org/10.1111/jocn.16614>
- van Manen, M. (2017). But is it phenomenology? *Qualitative Health Research*, 27(6), 775–779. <https://doi.org/10.1177/1049732317699570>
- van Noort, H. H. J., Witteman, B. J. M., Vermeulen, H., & Huisman-de Waal, G., & Basic Care Revisited research, g. (2020). An outpatient nursing nutritional intervention to prehabilitate undernourished patients planned for surgery: A multi-centre, cluster-randomised pilot study. *Clinical Nutrition*, 39(8), 2420–2427. <https://doi.org/10.1016/j.clnu.2019.11.038>
- van Vliet, I. M. Y., Gomes-Neto, A. W., de Jong, M. F. C., Jager-Wittenaar, H., & Navis, G. J. (2020). High prevalence of malnutrition both on hospital admission and predischARGE. *Nutrition*, 77(110814), 1–8. <https://doi.org/10.1016/j.nut.2020.110814>
- van Zwiene-Pot, J. I., Visser, M., Kuijpers, M., Grimmerink, M. F. A., & Kruizenga, H. M. (2017). Undernutrition in nursing home rehabilitation patients. *Clinical Nutrition*, 36(3), 755–759. <https://doi.org/10.1016/j.clnu.2016.06.003>
- Versteegh, M. M., Vermeulen, K. M., Evers, S. M. A. A., Ardine de Wit, G., Prenger, R., & Stolk, E. A., (2016). Dutch Tariff for the five-level version of EQ-5D. *Value in Health*, 19(4), 343–352. <https://doi.org/10.1016/j.jval.2016.01.003>
- Weimann, A., Braga, M., Carli, F., Higashiguchi, T., Hübner, M., Klek, S., & Singer, P. (2021). ESPEN Practical guideline: Clinical nutrition in surgery. *Clinical Nutrition*, 40(7), 4745–4761. <https://doi.org/10.1016/j.clnu.2021.03.031>
- West, M. A., Wischmeyer, P. E., & Grocott, M. P. W. (2017). Prehabilitation and nutritional support to improve perioperative outcomes. *Current Anesthesiology Reports*, 7(4), 340–349. <https://doi.org/10.1007/s40140-017-0245-2>
- Xia, C., & McCutcheon, H. (2006). Mealtimes in hospital—who does what? *Journal of Clinical Nursing*, 15(10), 1221–1227. <https://doi.org/10.1111/j.1365-2702.2006.01425.x>